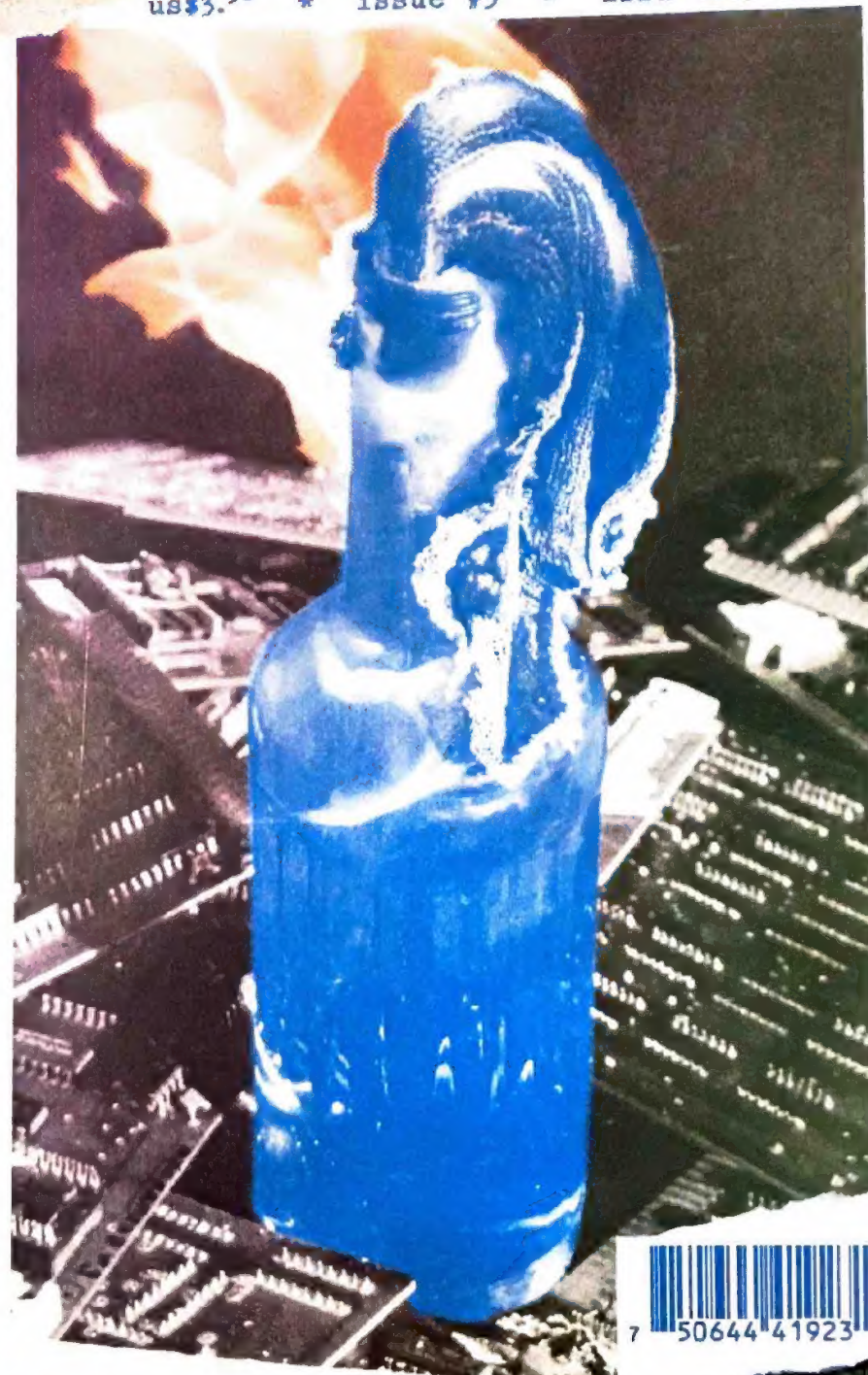


the Environmental Issue

FRINGE WARE™ REVIEW

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Welcome to the Environmental Issue of *FWR*. Issue #2 discussed tools for survival; this issue addresses similar points, but from a broader perspective, as in "How can we survive, given that we are linked inextricably together?" What do the Fringes report?

Where? When? To compose this issue, we've collected thought and praxis about "environmentalism" from the far reaches of cyberspace. Say that we've sampled the noosphere, circa 1994. About the time our final drafts rolled in for this issue, *FWR* received the new *South Atlantic Quarterly* special issue "Flame Wars: The Discourse of Cyberculture" ISBN 0-8223-6400-X, from editor Mark Dery. *Blast and damn, we've been scooped!* Go out and get a copy of "Flame Wars", look for an essay by Erik Davis, and be sure to read the entire book. Highly recommended, and relevant to our theme.

What? There's an open question... In terms of structure and process, one could point to several domains where we are "linked inextricably together". The *biosphere*, of course, provides basic materials for our survival as biological creatures. The *global economy*, or collection of regional economies, determines the nurture for our mechanisms and activities beyond organic exigencies for survival. The *media* creates another linkage, through our "info-sphere". More dimensions of common environs probably exist, but as with bugs locked in an ancient Chinese venom jar—and *chaotic systems in general*—three will serve our purposes. Note how *biosphere*, *economy* and *media* correspond to the bases for that three-part biological/technological/memetic evolution explored in *FWR* #2.

Why? For starters, a kind of apocalyptic (a *Paco lip-tic* p'haps?) notion or premonition—whether valid or not—seems prevalent, fermenting within our collective psyche, as a threat to both hope and environs. Here's a quick mental exercise: think about the machines in our lives, even in the most primitive sense...all the municipal water pumps, building heaters, farm tractors, delivery trucks, door locks, computer systems, etc. What if each of these machines "died" tomorrow? How long would it take before most of the world's human population likewise died from poisoning, thirst, starvation, exposure? Months, weeks, days?

This scenario will probably *never* happen, but it illustrates that, as a species, we've *surpassed our means to survive collectively without machines*. Our evolution has lead to the creation of machines and now implies dependency on them for mass survival. One must understand this relationship between *biological* and *technological*, before exploring further. Yet rapid changes in our environs, brought on by new forms and uses of *media*, limit hopes for deep understanding.

How? In the "D.I.Y. Videosphere" piece, Jon Lebkowsky summarizes a spirit for what several other writers convey throughout this issue. A handful of themes emerge: *navigation of media environs... D.I.Y. environmental solutions... collective approaches for creating new environs... one form or another of confronting obsession* (thanx Don), because it is *obsession* which drives our individual sextants, ultimately navigating personal narratives to create our lifetimes.

Noöspheric Calculus

Returning from a business trip last summer in Europe, I sensed a pervasive *fear* as soon as I hit ground in the US. I'd been gone a while. Marks from the emotion's tendrils seemed prevalent, evidences I couldn't quite source. Searching, I caught traces, on people's faces, in the way they talked about the news, eyes glued onto a television screen, commercial media pumping fear in exchange as its tariff. America compelled me to respond, so I started writing, riffing...*calculus*. And now, if you will indulge a bit of satire:

$$\text{Obsession} \propto \text{Desire}(t,i) = \int_{t \in [0, t_{\text{life}}]} \text{Attention} \, dt \Rightarrow \frac{\partial}{\partial t} \text{Reality} \geq \emptyset$$

$$\text{Inhibition} \propto \text{Fear}(t,i) = - \int_{t \in [0, t_{\text{media}}]} \text{Attention} \, dt \Rightarrow \frac{\partial}{\partial t} \text{Community} \geq \emptyset$$

$$\text{Action} \propto \text{Opportunity}(t,i) \leq \left| \frac{\partial}{\partial t} \text{Desire} \right|, - \frac{\partial}{\partial t} \text{Fear} = \frac{\partial}{\partial t} \text{Desire}$$

$$\text{Time: } t \equiv \frac{\partial}{\partial n} \text{Reality}$$

$$\text{Evolution: } n \equiv \text{Novelty, the capacity for adaptation}$$

$$\text{Information: } i \equiv - \sum_x (p_x \cdot \ln p_x)$$

$$\text{Communication: } p_x \equiv \text{Probability of a particular signal } x \text{ expressed as a fraction of } \forall x, \text{ the total signal, i.e. the message or real interactivity, in a channel between two or more sentients}$$

$$\text{Equilibrium: } 1/e = \frac{\partial^2}{\partial t \partial i} \text{Community}$$

The point here is how these equations express relationships between *biology*, *economics* and *media*. The first line, for example, could be translated as how "obsession is proportional to desire, which is ultimately equal to how one spends attentions over the course of a lifetime, and implies some kind of change over time in one's reality." The next two lines suggest how the growth of fear based on changing information (news) tends to oppose the rate of change for one's desires, and can inhibit other environmental artifacts.

This satirical media calculus goes on to note how time relates to changes in reality and novelty,

allowing a space for the possibility of adaptation and evolution (partial kudos to TMck). Furthermore, information is defined by a kind of entropy for communication (Shannon). These characteristics also point to a notion of "punctuated equilibrium" within an evolving community (Hillis/Feynman).

Of course, all derivations are left as an exercise for the reader, but the point to remember is that calculus provides a symbolic tool for understanding relationships which span across dimensions, and for exploring their limits.

A Butcher, A Baker, A Candlestickmaker

Imagine slicing through a large ball of cookie dough with a broad, flat knife. Visualize whirled chocolate chips and chilled, sticky-sweet dough... the intersection of the cookie dough ball and the knife blade forms a circle. Surfing the edges of that circle, one follows a path which is a very simple curved line. The cookie dough sphere takes up space (volume) so it occupies at least three dimensions (3D). The circle formed by the intersection of the blade and the dough is a flat plane, which

occupies at least two dimensions (2D). The line formed by the circle's perimeter presents a path with only two choices for movement: forward or backward, so it occupies at least one dimension (1D). These objects could each, respectively, inhabit even more dimensions by bending and twisting just so...

Slicing the cookie dough illustrates what mathematicians call *projection*, which describes how things existing in higher-order dimensions can be viewed from the perspective of observers constrained to lower numbers of dimensions. *What's the shape of the result when an object in a particu-*

lar space intersects an object coming (at least partially) from another dimension? For example, shadows cast by an Egyptian pyramid at sunset form a darkened triangle on the plane of the desert sand... so the 3D pyramid is projected onto a 2D plane. The "Tollhouse" example above similarly projected from 3D (sphere) to 2D (circle) to 1D (line).

Of course, from the perspective of a creature living in a world defined by the 1D line, tales and visions of a 3D cookie dough ball would seem unimaginable or perhaps *hallucinatory*. If you really want to tweak gray matter along these lines, look for a great children's book called *Planiverse* (thnx Margo). As biological creatures, we exist in space and time, which is to say that we experience 3D environs and our movements through them over a 4D lifetime. What might exist beyond?

The LAN Beyond Time

Ancient mystics referred to a *body*, a mass collection of information as some kind of dimension beyond time. Several pieces from "Flame Wars" refer to this notion, which H.P. Blavatsky called the *Akashic Record*. In a similar vein, artists, musicians, writers, thinkers and creative people in general make frequent, curious remarks along the lines of: "That idea didn't come from me, it was already out there, I just tuned in and embellished..."

Timothy Leary proposed an *Eight Circuit Model* for studying the human brain viz. group and individual behaviors. Successive brain circuits provide evolutionary solutions to the problems faced by organisms confronting successive dimensions of reality. Extra brain goo evolves to help 'em surf their emerging environs. The first three circuits concern propagating organisms through 3D space: movement up/down, backward/forward, left/right... The fourth circuit concerns *culture*, an evolutionary short-cut—much like a 4D "cookie dough slice"—for propagating collective organisms over time. Remaining higher circuits address the navigation of *information*, as if it were, in itself, a physical dimension.

Not to dismiss Shannon's work on entropy, but if information actually is a dimension beyond time—*think about it, where is all the information in the universe collected, and does that change with respect to time?*—then each communication in which we participate might represent a fleeting intersection, a *projection* in the mathematical sense, between all collected information and our gaunt, time-based existences. Perhaps, by Leary's meta-programmable model, our brains hold encoded mechanisms for frolicking through these higher-order environs, or perhaps our bodies hold keys for evolving into beings which could eventually do so... *Homo narrativorus*.

We Interrupt This Broadcast To...

...imagine beings living in an environment parameterized by space, time and info. Now, this editorial climbs all the way out on a conceptual limb for

several reasons. First, to follow up the "Economy of Attention" theme from the previous issue. Second, to provide a proper set and setting for David Blair's centerpiece essay and other articles in its orbit. Third, to introduce a strawman "media calculus" that envisions analytical tools for exploring the relationships, dimensionality and limits of our biosphere/economy/media. And fourth, to propose three practical suggestions for the sake of environmentalism.

Suggestion #1: The fundamental biological constraint in media systems is your attention. The fundamental unit of measuring economic systems given today's new computer-based media is your attention. *Where does it come from? Where is it going? What are you doing with it?*

Try playing with the media calculus equations. Encapsulated within are mathematical relationships involving attention which infer how distortions can threaten our environs by limiting important characteristics: *community, opportunity, evolution*. New media subtexts implicate the costs of artifacts such as *junk mail-marketing* and *personal interactivity overdose*. What might this imply for a business based in cyberspace?

Suggestion #2: Politicians are funny in that they avoid solutions (firm decisions about trade-offs, guaranteed to upset one or another constituents) in favor of *bandwagons* (confusing sublimations, guaranteed to compromise any real effects). I mused over this with respect to environs, wondering "What kind of subversive political bandwagon, what fecund niche within the noosphere, i.e. what *meme*, could FWR suggest to help improve the state of our biosphere/economy/media and balance the overall system?" Something seductive, potentially obsessive, but ultimately not apocalyptic.

I thought about media-induced fear and its roots—like the billboards in the movie *They Live*—then went back to the calculus and took a few derivatives to optimize this system of equations. Thanks to work from "free agent .rez" last issue, I realized that it'd be great to inquire in a published forum: "Has anybody ever thought about placing a tax on advertising?"

Suggestion #3: One of the quickest, most sensible means for effecting digital cash would be to have senders pay addressees on a "bid/ask" basis for reading/responding to email. Visualize personal 900 numbers in cyberspace...or perhaps "ma & pa fruitstands" scattered along the Information Superhighway. Computer-mediated communications create wonderfully rich environs for linking people all over the planet, but the system lacks true market dynamics and therefore won't persist long in its current form.

Some people receive many requests through the medium, some initiate many requests through it; massive flows of *attention* transact. Why not have machines mediate a bid/ask pay-per-email-message system to offset the real costs for participating, i.e. transacting attention? Sure, your kid

sister or best friend might get email through free, but you could insist that an unknown insurance sales rep bid big bucks for the privilege. And suppose you wanted to talk with, say, R.U. Sirius...er, well, Sirius could go broke quickly just sitting around answering fan email. Would you pay a buck to have Sirius read and answer your message? Five bucks? It takes up the guy's time, y'know, and he's gotta eat. Maybe if things caught on—and his answers were good—someone might fork over, say, fifty bucks per message. How about if Jane Q. Hacker popped into cyberspace from Cedar Falls, Iowa, with a perspective that *Fringeoids* all over the world wanted to talk with her about?

Someday, somebody's gonna write an email filter which accepts VISA numbers... Meanwhile, for a long time now CompuServe has paid forum moderators based on interaction with customers; celebrity guest moderators become cash cows. The WELL makes payments in the form of comp accounts for its memetic agitators. So "famous" people can get kickbacks, but when will others be able to participate in the market?

Tuning in...connections from a higher space burn like comets from point to point as information transmits, projected onto our time. Surf the contours of the environs: please consider these suggestions, obsess over 'em, perhaps, as you navigate through our third issue. To boldly glow, where no mind has blown before—

Paer

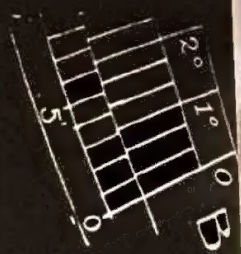
di•men•sion (di-men'shan) *n.* Any measurable extent, as in length, breadth or thickness; magnitude; a factor used to characterize terms in an equation, by counting exponents.

en•vi•rons (en-vi-rnz) *n.pl.* A surrounding, outlying area, as about a city; outskirts.

nar•ra•tive (nar'sa-tiv) *n.* Something narrated, as an account, story or tale; the act, art or process of narrating—*adj.* Of the nature of, pertaining to, or dealing with narration: a *narrative* poem.

ob•ses•sion (ab'sesh-an) *n.* That which obsesses, preoccupies or vexes, as a persistent idea or feeling; an unwanted or compulsive idea or emotion persistently coming to awareness; means for healthy resolution with the state of being human.

pas•tiche (pas-teesh') *n.* A work of art, music or literature made up of fragments from various sources, especially one imitating or satirizing the style of the other artists.



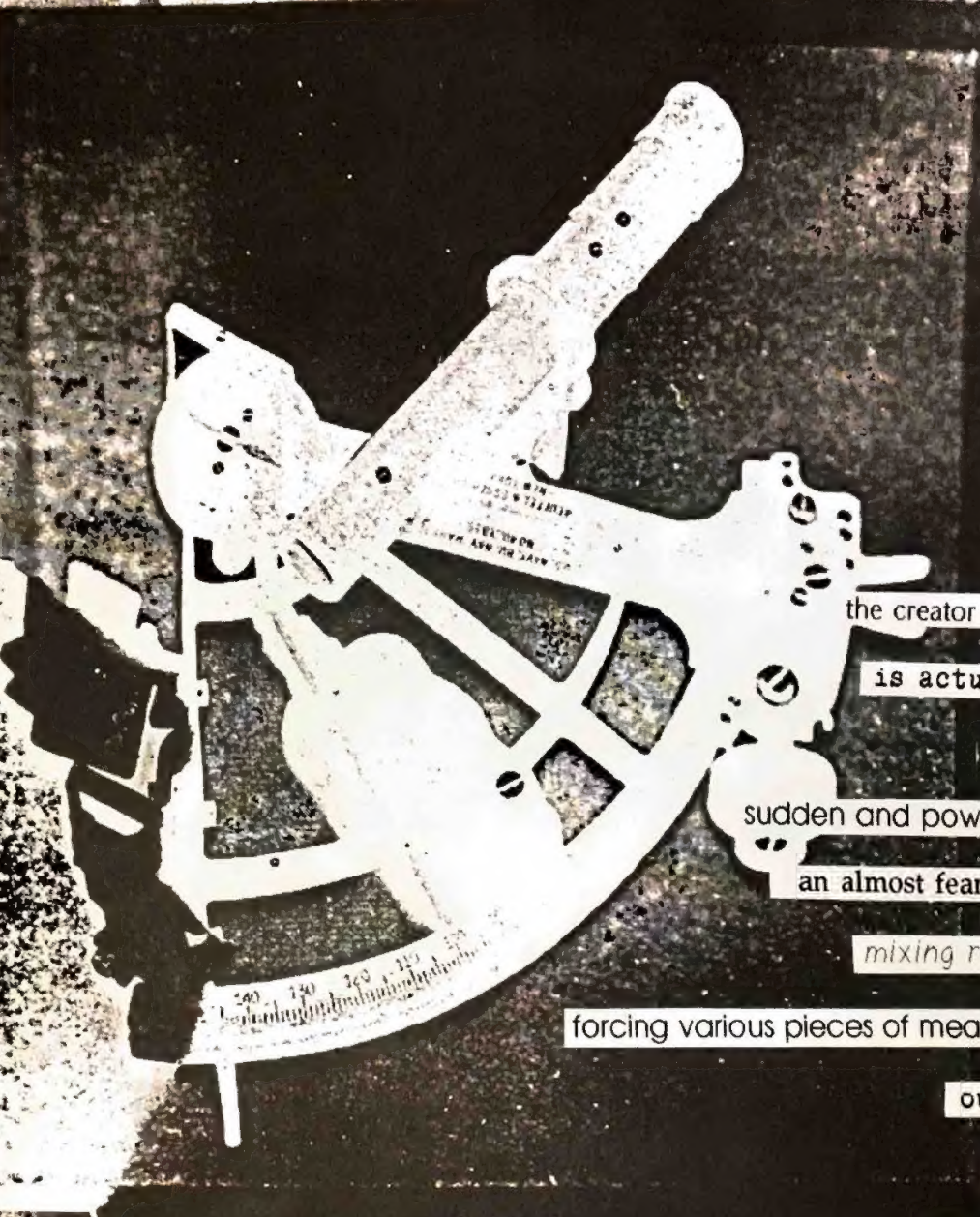
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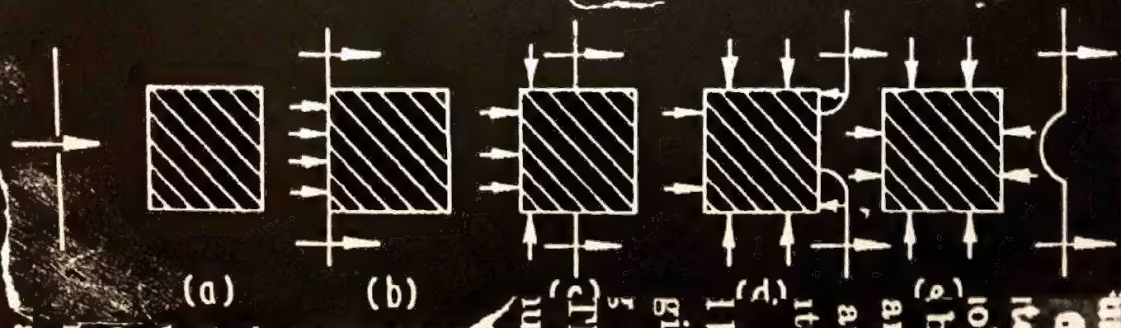
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mixing real-world images

forcing various pieces of meaning to interact so
out of this mess,
We, the members
fill-in-the-blanks
and filter reality.

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SHOCK FRONT





I_ Disneyland

It's 9:45 PM, and I'm walking through New Orleans Square at Disneyland-Anaheim. The watershow is in full swing, with miraculous sudden set changes... the giant pirate boat with 50 actors has turned and completely hidden behind a corner too small for it, and multiple 30-foot evil magic-mirror faces hang on mist screens above the water. I decide to take a sudden turn myself, to visit the Pirates of the Caribbean ride. A few feet down the path, the crowd is gone, and the water show almost inaudible. The ride is a narrow water way with flatbottom boats inexorably driven forwards through the artificial landscape by a fearsome chain and gear mechanism hidden by the water. I'm in my seat, and 20 seconds later we are underground, on a river in a cave system somewhere beneath Disneyland, somewhere in the Caribbean, probably near the storage space of that missing water-show pirate ship. And, simultaneous with all this, I am almost back in the Carlsbad Caverns National Monument, true wonder of the underworld, alone, after midnight, during the production of my film "WAX or the discovery of television among the bees".

Floating on a boat attached by bottom chains to an artificial underground Disney-Caribbean river is not that much different from walking alone, at midnight, through the unbelievable underground and path-determined space of Carlsbad Caverns, moving in half-light among giant rock forms. That afternoon, deeper in the cave, I'd had a beekeeper's suit on and been standing around the corner of the one-way path from a cameraman, almost leaning on an fractionally detailed limestone formation. On the cameraman's cue, I was supposed to suddenly create a material wipe by walking around the corner, but we had to keep delaying the shot as tourists kept appearing behind me on the one-way path... surprising me, but not themselves... I was just part of the landscape, and several even said: "The Moon, huh?" before turning the next corner and finding the camera. I was part of their ride, but they knew I was also a thousand feet underneath the moon,

maybe somewhere in France on the set of a Melies movie, or perhaps back at Disneyland, back at Pirates of the Caribbean.

An interesting and vital part of navigation in immersive environments is the effect of sudden mode change... Often, turning a corner, you are instantly in another environment, as if you had just passed through the spatial equivalent of a soft-edged wipe. What is shocking is that these mode changes can often take you to an environment which contradicts the one you just came from, both in appearance, and in meaning and use... like turning a smooth corner at the base of the Matterhorn at Disneyland, and ending up at the end of a row of urinals.

grid of optimistic palm trees above... I realized I'd better go to Disneyland before I got too busy. Four hours later, it was closing time at Disneyland, and I was emerging from the bathroom across from the Matterhorn. I'd just bought my first Walkman the month before, and wasn't used to the dual alienation and audio overlay effect you get from a Walkman, so I put the headphones on again with self-conscious semi-reluctance, and went back to "We're all Bozo's on this Bus" (*Firesign Theatre*, 1971), written at the beginning of the age of Video as an imagination of what government-inflicted simulation might really be like. Putting the story briefly, a bus comes to town, and Clem gets on board. It turns out that the bus is actually a seam-

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and stabilize
our perceptions

The first effect of this spatial mode change, I believe, is that one becomes more susceptible to association. In other words, free navigation in an immersive environment leads to mode changes, and mode changes lead to an increase in association... sometimes internal, and sometimes external. The latter we call coincidence.

Back in the early '70s, I learned a lot from surreal audio theatre pieces put out by the group *Firesign Theatre*. I hadn't listened to them for almost twenty years until I bought them as used records, in preparation for a trip to SIGGRAPH '93. Off the plane under the memorial statue at the John Wayne Airport in Orange County, in an enormous surrounding glass abutment that was the symmetric center of a high imperial postmodern building so obviously built first in the computer that regular holes had been designed in the mold of the parking garage's poured roof to allow what started as elephant feet underground to turn into a

less VR environment, that may or may not take Clem to a future amusement park very similar to what I imagine is Ross Perot's vision of the Data Superhighway. While meeting the audioanimatronic President on the White House Ride, Clem reveals himself as a quasi-revolutionary hacker, who conversationally forces the robot president into maintenance mode, in order to talk to Dr. Memory, the real program running the simulation. Clem is in inside the machine and inside the program, calling out to Dr. Memory: "Read me, Dr. Memory! Read -me- Dr. Memory!" There's a full moon out, the Matterhorn is white, and the gondola cables are dark and visible against the sky. Suddenly, there's an additional voice and space on the tape, which it takes about ten seconds to identify as coming from the entire southern slope of the Matterhorn, which has begun to speak in the sublime voice of a woman on a microphone saying: "Shutting Down System A. Shutting Down System

A. Check. Shutting Down System B. Check." A male voice conversationally replies to the technical woman from another set of speakers across the way. In the meantime, Clem, who had already succeeded in breaking the President, has just shut down the entire Future Fair.

The effect of modal change and association, whether the latter takes place in the imagination, or in the world as coincidence, is that you end up with at a sort of spatial fiction, what Jay Bolter in his book on electronic writing called a topical, or topographic fiction...a fiction of aphorisms and situations, spread in front of you as a field of places that can change one to the other in a variety of ways. Traveling through the fiction is like navigating through an immersive environment, and vice versa.



2_ haptic dimensions

Navigation through immersive environments is of course a serious problem in the world, an enjoy-

able problem in amusement parks, and a highly rhetoricized one in virtual worlds. Already, in an amusement park, we are often on the verge of fiction making. By the time we get to virtual reality, we find ourselves in the midst of a full-blown metafiction.

Metafictions have been described as fictions that examine the creation of systems, especially themselves and other fictions, with particular attention to the ways in which these systems transform and filter reality. There is an assumption in this sort of fiction-making that we are locked in a world we have created, a fictional world shaped by narrative and subjective forms developed to generate meaning and stabilize our perceptions. Metafictions don't operate on aesthetic assumptions of verisimilitude, but exult in their own fictitiousness. They assume that there are no true descriptions in fiction, only constructions, which may not have any relation to the world.

Navigation in virtual worlds tends to disrupt the ordinary balance that exists between our exterior senses and our interpretive subjectivity. It is no accident that VR has been compared with hallucinogens. LSD, as well as alcohol, fatigue, and lucid dreaming, have already provided us with many examples of this disruption, all tending to reveal what I would call the haptic dimensions of thought...a sudden intuition of the material nature of thought, of how thought is received from the environment, and at the same time transforms the

environment. Acid trips, as example, are famous for their mode changes, sudden and powerful associations, and constant commentary upon themselves, a unified meta-fictional experience which often leaves the user with the powerful impression that thought is literally another and different physical sense.

Of course, the same effect is common to exhaustion in immersive environments. After the Matterhorn spoke through speakers, I made the very long walk back to my hotel across the famous and vast parking lot, past the gate and down a long street with a new sidewalk which changed side of street every block, and width more often. Four hours off the plane, with miniature golf to one side, the Charismatic Convention Center to the other, and naked power pylons above, I was waiting for the next epiphany, as I could barely tell the difference between Disneyland and California. I received my epiphany as the appearance of a small rectangular concrete cover embedded in, and same color as the sidewalk. On the molded top there was indented the word "telephone", which in the tunnel of my exhaustion made me think too clearly about the lines invisible under the overly-lit night street, about my telephone at home, barely lit and unseen by my wife, who was certainly asleep in another room; about the last phone I used to call her, a pay-phone back at Disneyland...in general, about both the limits of my knowledge, and the connectiveness of words, my thoughts, and the

d.i.y. videosphere

fear & loathing in virtual videospace

..by Jon Lebrowsky, jonl@jo.com

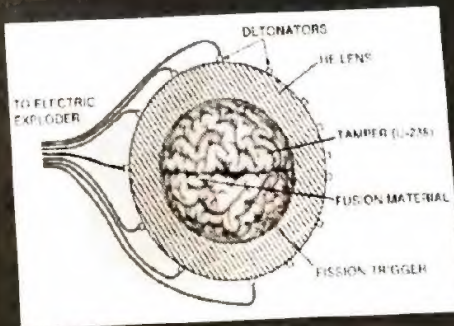
Marshall McLuhan envisioned an immersive sort of media matrix that would feed and nurture psychic environments, at the same time creating, and created by, strange contextual attractors... Could he have imagined the impact of DIY telenews? I'm referring to the *I Witness Video* phenomenon, the acquisition and broadcast of "home" videos by major networks so that they're widely distributed... The most visible of these being, of course, street videos of the Rodney King and Reginald Denny beatings.

HBO recently ran a special called *Shock Video*. Though they included discussions of related legal and privacy issues, the real focus was on the videos themselves... A strange and revealing assortment, mostly scenes of violence: cops beating civilians, for instance, and a sickening scene of a cop's murder by three thugs he'd stopped on the road. His widow, in an interview, said that she'd been criticized for allowing broadcasts of the murder, but she felt strongly that the public should see the reality of life on the streets.

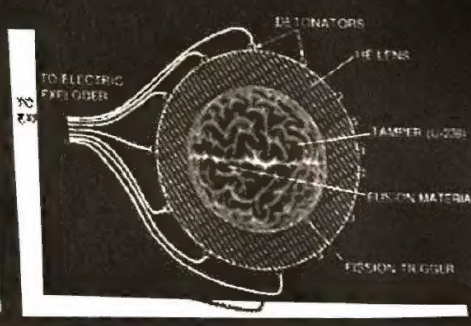
This is a telling quote, implying a sense that we live in protected environments, surrounded by a hostile world, a "jungle" usually hidden, now revealed by street video. I question to what extent this "hidden world" is revealed by electronic media, and to what extent it emerges from media, i.e. from

of violence, our communal consciousness will assert that focus, informing the shape of process reality so that everyday life becomes increasingly violent.

The supposition here is that culture reflects art as readily as art reflects culture; the two mirrors co-evolve perceptual and, finally, real changes by



an evolving emphasis on violence and paranoia in broadcast media over, say, the last two decades. "Which came first?" is sometimes an irrelevant question, but here it implies an issue of attention: if the psychic scan lines most readily form images



feeding each other images which morph as they're generated. For example, consider the impact of strange attractors such as Sam Peckinpah's challenges to the status quo cinema of the 60s (*Wild Bunch*, *Straw Dogs*), the persuasiveness of *A Clockwork Orange* as self-fulfilling prophecy, the



world...and how, in making those connections, my thoughts had acted like a strange sense, seeing things so far away, or impossible to see.

I believe this is related to something the mathematician Poincaré said when describing his theory of conventionalism, the main purpose of which was to assert that the space described by the convention of Euclid's theorems did not rule out other spaces with their own self-consistent sets of rules. In certain descriptions of space, he said, there could also be haptic dimensions...where every muscle was a dimension.

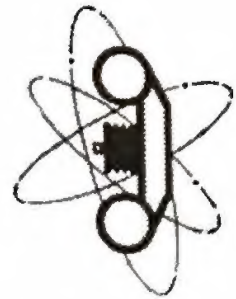
This thought fascinated people at the turn of the century, and was related by them to the notion that the 4th dimension was an alternate spatial dimension, at right angles to everything we know. In many ways, these enthusiasms were parts of an attempt to deal with subjectivity as a dimension and as a sense...an *n*-dimensional sense, since with so many possible descriptions, there was no point in stopping the count.

Nowadays, with human/computer interface technology, we have come to a literalization of the idea of haptic dimensions. Now, the world can be mapped to muscles, so that a small hand gesture inside a Dataglove can be used to navigate, or even to increase the amount of space available in a virtual world.

Speaking about the human/computer interface in his book *Virtual Reality*, Howard Rheingold says:

"We build models of the world inside our head, using the data from sense organs and the information processing capacity of our brain... We habitually think of the world we see as out there, but what we are really seeing is a mental model, a perceptual simulation that only exists in the brain. That simulation capability is where human minds and digital computers share a potential for synergy."

I find it fascinating that Rheingold is not just a great popularizer of VR...he is also a popularizer of lucid dreaming technologies...which allow a dreamer literally paralyzed by sleep to communicate information from a parallel, artificial and autonomous world out to sleep researchers, using a Morse code of eye-wiggles. I take it as a clue that our equivalent of the turn of the century fascination with haptic and higher dimensions can nowadays be found in the theme of potentially autonomous alternate worlds that exist in machines as virtual reality and artificial life, or in our world, as *Jurassic Park*, and which share among themselves the qualities of metafiction.



3 meta JP

In North America, we are already immersed and navigating within *Jurassic Park*. Of course, *Jurassic Park* (the Film) is only a single interstice within an immersive, navigable environment made up of the various media that *Jurassic Park* (the Concept) is presented in...ranging from wearable teeshirts, and wrappings for burgers at McDonald's, to many of the booths at SIGGRAPH, and beyond that to future theme park rides. Metafictional elements are the audiences' navigation within this environment...from product to product, from place to place...best emblemized by the film audience's common smile at the only really visible product placement in the entire film: the *Jurassic Park* memorabilia that can be seen on screen in the *Jurassic Park* gift shop. Given the fact that the film is part of an immersive

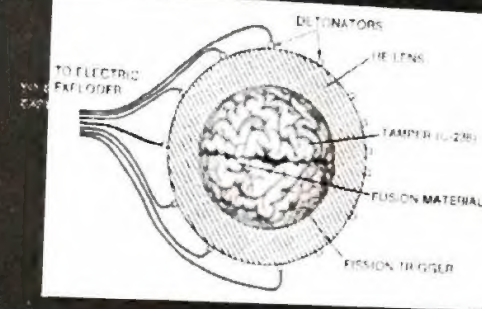
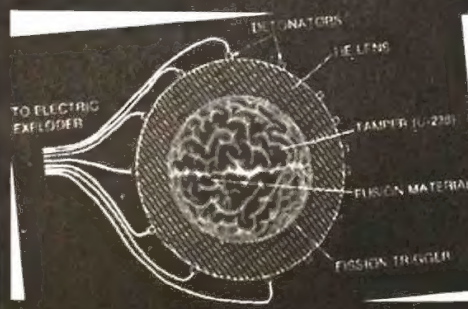
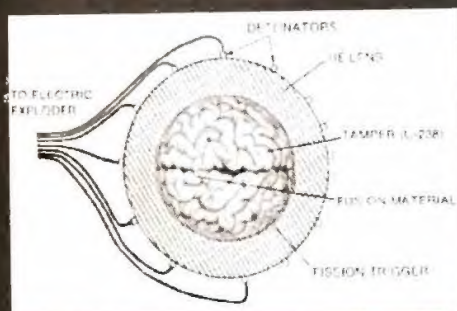
tabloidization of television news, and the subject of our discussion, the proliferation of DIY videocam news.

Jesuit philosopher Teilhard de Chardin suggested the evolution of a *noosphere*, or global group mind, as mankind's future, and through electronic

valence of his *noosphere* would be reversed to serve demons rather than angels.

This is the apparent direction within media today, and randomness is magnified by the proliferation of recorders (videocams) and of distribution points—e.g. 500 channels on the "Information

mid-century America has ended; a blast of multi-cultural innovation, accompanied by an anarchic redistribution of power, is probable within the next decade, along with a globalization of media.



media, especially computer-mediated communications, we seem to be forming the links which this *noosphere* would require. However, Teilhard did not foresee the emergence of random violence as the prevailing late-20th-century cultural meme, and the implicit possibility that the *extropic* or godlike

"Highway" of the near future. The result of this explosion in the numbers of artificial sensors is impossible to predict given the extreme possible variation in strange attractors. *Homogenization of culture resulting from nascent broadcast television's restrictive memetics in*

As this scene evolves, thousands of mice in the maze will carry videocams for the dual intent of filtering and recording experience, while others tunnel into their boroughs and live as homified, but strangely passive, observers. 1/6



environment, this moment is more than an advertisement for itself...it is an metafiction emblem of navigation, modal change, and potential association, in the same sense as given back at the Pirates of the Caribbean, though designed for a more limited and practical effect...to sell you t-shirts, or whatever you might want when you decide you want it.

Navigation is an important theme within the film. Richard Attenborough, famous film director in our world, stars as the concept and money-man behind Jurassic Park, a world within our world where dinosaurs live again. He transports our main characters to the island in the bellies of helicopters, to see and approve the mystery of his creation. First stop, after a brief witnessing of this creation, is the island's museum movie theatre. There everyone is treated to a film within the film, in which Attenborough clones himself to introduce us to the idea of reproduction without sex. Suddenly the movie theatre becomes a theme park ride. Restraining bars come down over the seat-bound, a wall opens, and, diorama-style, a living laboratory behind a plate glass wall begin to scroll past the riders, dinosaur-reproduction workers are visible inside the laboratory. The lawyer-character whispers to Richard Attenborough: how marvelous, it's all so realistic...are those auto-erotica? Attenborough replies: no, we have no animatronics here. They're real! It is at this moment that the three scientist characters, so taken by this completely immersive

environment...there is no question of real or unreal for them!...decide that they have to navigate. Communally, they force up the restraining bars, and exit the ride—cybernetic sailors on this narrative's oceanic pond!

If you've ever seen *Blazing Saddles* by Mel Brooks, you'll remember the famous horse chase, whose climax is a sudden modal change, where the chase crashes through a painted landscape backdrop, and finds itself backstage...with no loss of momentum, the riders continue on to the next set, where they disrupt a Busby Berkeley style movie in mid-production. That's how I tend to view the scientist's jump off the ride, as well as the famous scene when the autonomous and artificial *Tyrannosaurus rex* crashes through the Park's unelectric fence at the beginning of the film's recorded disaster.

Of course, by that point in *Jurassic Park*, the associative process is already in overdrive. For instance, what are the dinosaurs? Before seeing them, most people already know that they are this age's miracle of computer-generated pseudo-autonomous entertainment reality. In the film, we also learn they are earth-buried bone that can be made visible aboveground in the middle of the Badlands of South Dakota through the use of shock waves generated by elephant-gun shells, which create echoes that can be written to computer screens as image-processed pictures. They are DNA held invisible within mosquitoes doubly

hidden within miraculous transparent amber buried deep in the earth, which yet can be dug up, extracted, and revealed as equivalent to the wall to wall scrolling alphabetic texture that covers the cinema screen in the movie within the movie at the Jurassic Park Museum...DNA letters actually generated during the dinosaur's fateful afterdeath mating with frogs that can change their own sex. I can't even begin to go into the number of descriptive associations this film can generate...to my mind, it is one of the great associative narratives, a truly atemporal, or should I say *spatialized* film.



4. SGI

Which brings us to *Jurassic Park*, the potential virtual reality. Several weeks after seeing the movie, two days after Disneyland, I found myself at Discovery Park, part of the Silicon Graphics booth at SIGGRAPH '93. It was here I had a chance to reconsider what I had thought to be one of the most sublime elements of the film...the overarching,

fractal 'n' voodoo

..by Robert Watkins, ib32@jove.acs.unt.edu

Most people, by now, have been exposed to the terms "fractal" and "chaos". These words are common in our language and in computer generated images used to represent fractals are common in our media...but the extraordinary details and entrancing patterns within them cannot be easily described in words.

Work with these kinds of images—not to be confused with the larger study of fractals in general—falls under the category of science called *fractal geometry*, which focuses on fractals based on *number systems* that we can easily grasp...*real space*, to create the fractal landscapes popular in movies...*complex space*, to generate the stereotypical Mandelbrot Set...and *quaternion space*, to generate extended Julia Sets. Each of these number systems represents a "tool" for measuring different kinds of dimensions (very regular, well-defined systems), whereas fractals in general are based on sets of *arbitrary* types of objects and functions. The basic concepts of fractals can be generalized by fractal geometry, but the arbitrary types of objects observed through fractals usually have certain

structural characteristics...Visualizing "what's really going on" becomes nearly impossible unless you constrain the work to objects already familiar to humans, ergo use fractal geometry for images.

Even so, you generally only get a partial view of "what's really going on", and most people have no idea how the computer images are created. What do the colors stand for? What do the patterns mean? What makes this branch of mathematics so significant?

Many people—investors, business owners, corporate leaders, government officials, etc.—would like to be able to make wise, informed decisions that positively affect their future. Makes sense, right? Great, these days you can buy software to analyze the progress of stocks, or the progress of trends in general. But the sophistication of this kind of technology is still vague, at best. Consider the possibility of being able to generate an image of the future, based on "What If?" scenarios—decisions you would still have time to make, and images that would describe intimate details of the resulting future, even showing links between seemingly unrelated events. Sound intriguing? But what does

this have to do with fractals? Let me explain the machinery which makes fractals work.

On the most elementary level, a fractal is a function which takes an object from a specific set and manipulates it in a particular way to produce a result which is also an object from the same set. No problem...Now, consider the Julia Set, which uses the set of complex numbers and the recursive function $Z_{n+1} = Z_n^2 + C$ where C is a complex number and Z_0 represents a point in a bounded region of the complex plane, which starts the sequence...Blechl Okay, don't worry, I'll explain...first, let's fix C to be anything, say $C = 0.3 + .02i$. Then let's look at a point in the bounded region we're considering, say $Z_0 = -1.1 + 0.4i$. Generally, the process of recursion stops when the distance from the value of the function (Z_n) to the origin ($0+0i$) becomes greater than some limit, some pre-defined value, say 4.

To create an image then, let's count—for each point in the fractal image—the number of times that the function has to be applied to achieve this limit...much like counting the number of skips a flat stone makes when being skipped across a river. We can assigned particular colors for these counts



fractionally dimensional and ultimately recursive theme best expressed by the main scientist in the phrase: "you'll never look at birds the same way again."

If I remember correctly... at the beginning of the film, we're in the Badlands with the main scientists, digging fossils. The shotgun shell has gone off, revealing the subterranean *Velociraptor* skeleton on their outdoor but not particularly mobile computer screen. In the midst of a violently imaginative fleshing out of the dinosaur bones' previous body and behavior, the scientist says "You'll never look at birds the same way again". This phrase, stranger than it seems, and well aware of its effect, echoes through the film in hundreds of ways: becoming, as if by default, a main theme. Moments after the fatal pronouncement, Richard Attenborough arrives by helicopter to take them to Jurassic Park, where it is their job to judge whether this high entertainment concept can fit in our world. The park implodes, the dinosaurs riot, and the scientists barely escape... but they do, in the belly of a helicopter. At the film's wordless end, the main scientist looks through the clear window, or dead eye, of his artificial bird, and finds what appears to be the sublime in the image of a pelican winding its wings over the ocean beneath him, which, except for an exterior shot of the helicopter in flight, is pretty much the last shot in the film. Despite all the emotion on his face and in the sound track, I have

to say that I really don't know what it is the scientist sees, but it certainly is a bird.

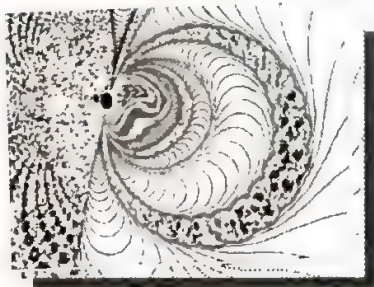
The day before at SIGGRAPH, I actually did find my way to SGI's "Discovery Park", I was standing two halls away in line at The Virtual Reality Laboratory, part of a VR museum ride created for an exhibit called "Imaging, the Tools of Science" to be installed at the Chicago Museum of Science and Industry. The visual interface was the *Fakespace Boom 2C*, a boom-suspended periscope-style cube with a high-resolution stereoscopic display inside, more vividly, something like a large, swivelable, real-time *Viewmaster* at the end of a very fancy articulating lamp-stand. Virtual Reality Lab was essentially a fly-ride through several surreal and constructed worlds. First you found yourself in a bare, circular room, with your pre-grabbed portrait on the wall, and a polygonally crude *Fakespace Boom 2C* recursively in front of you. Back in the real world, with the real boom, you could swivel around and look at the room, all the while inexorably advancing toward your portrait, which, at a certainly distance, shivered into fragments that floored together and flew through the hole left by their disassembly. You had to follow them, through the hole, to find yourself floating in the clouds. The birds that were you departed ahead and above. To the side was a girder-thick red wireframe cow, a sort of surrogate cloud, and directly ahead was a structure that once again you were inexorably heading towards and then through, a sort of open

ended floating skyhouse made of four circuit boards in extreme perspective, and a fifth right ahead. The moment before colliding with the fatal frontal board, you could see the image of a flower, and by the miracle of modal change, you found that you had passed through to emerge from a patch of flowers in the center of a park, main natural space in a Potemkin city made of texture-map flats.

This, seen from the particular angle chosen by the *Fakespace* user, was all projected on a video screen behind the person standing with his head up to the swiveling box. I didn't actually get to put my head up to the box that day, as the line was quite long. Time is always a consideration at SIGGRAPH, and since I didn't have a watch, I turned around to ask the fellow behind me what time it was. Before he started to speak I could see he didn't have a watch, and so I stopped in mid-sentence, just as he started to say something that I couldn't hear. Being polite, I said "What?" and he said "Right now", so I said "What?" and he said, "You asked me what time it was, and I said it's right now". I agreed.

Twenty six hours later, just before finally getting to Silicon Graphics' "Discovery World", I found myself waiting in line to pay for my lunch at the International Food Court. Again I needed to know what time it was, so I turned around and asked the person behind me. I recognized it was the same fellow just before he inevitably said "I said, it's right now, don't you remember?", surprising both of us.

say make all points which only take one iteration blue, all points which take two iterations red, all points which take three iterations yellow, etc.



environs. When the image gets "blown up" and viewed in bigger detail, similar structures begin to reappear. Theoretically, this will happen indefinitely.

Basically, colors are chosen by the person generating the picture. For some values, though, after even 1000 iterations the distance is less than our pre-defined ϵ . For these points, we stop, and usually assign the color black to it. That's what you see in a computer generated image of a fractal. What you don't see are the actual values the function generates.

Note that all the points in the resulting image are, in some way, connected by the function which has been applied to create them. Each point affects (and is affected by) countless others sharing its

Now, back to my previous claim about a connection between fractals and looking into the future. Consider a fractal, such as the Julia Set, defined on the set of all possible futures for a given stock issue. Supposed the pre-defined limit we used earlier was based on critical actions which could affect the stock. If this fractal could suggest the behavior of the stock, it would be extremely valuable. Information from the fractal set would define a "map" for the future of the stock's performance. The

chaotic nature of stock markets actually leaves this possibility open.

One step further—think of a fractal defined on the set of all the possible states of the universe, and a pre-defined limit based on individual choices that could be made. Iterations of the function would yield successive states of the universe which could be interpreted as the "future"—if the fractal were accurate. Imagine the possibilities! Research conducted specifically for this purpose by large corporations or governments—providing someone achieved a reasonably accurate model—would give rise to powerful tools for guiding policies and directing long-range goals.

I had the privilege of attending lectures recently at the University of North Texas, where professors Mauldin and Libanski are among the top researchers in the world studying fractals. A lecture on "multifractals" by a grad student named Lars Olson went mostly beyond my comprehension. But it inspired me to start writing about how fractals aren't just "cool" for computer images, they could someday present serious implications in our lives. 1/6

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as it had been estimated there were 10,000 other people with us in the Anaheim convention center. So, to be polite, as we obviously had something in common, I read his t-shirt, which said "The Virtual Museum", and asked "What's the Virtual Museum?" He didn't really want to answer, and I didn't really find out until the next day, when I came across the actual Virtual Museum, back in Machine Culture, as the art show was known during this SIGGRAPH year. The Virtual Museum being sort of a common interface for inexpensive, individually created virtual worlds, a sort of museum atrium through which one could enter, under arches, any compatible virtual world module you might pick up from the Internet, or a floppy disk. The Virtual Museum describes itself as therefore allowing anyone to explore ancient Egypt, pre-Columbian Peru, and Atlantis. None of this information being offered by my space-time companion at the International Food Court, I decided to push the situation, so I read his convention badge, which always has name and job function printed on it at SIGGRAPH. Apparently he worked for a company called Earth. So I asked, "What's Earth?", and he said "That's where I live".

After that and lunch, I was off to "Discovery Park", where the line was too long, so I talked my way in the back door. "Discovery Park is an Interactive Entertainment and Virtual Reality Experience!" was written on the brochure, and inside, there were birds.

First was a pterodactyl-shaped, user-mountable ride, where a canyon environment appeared on three large, high-definition screens ahead of the person who steered the flying machine from its virtual back, with wing tips and pterodactyl-head visible occasionally. Everyone in the room could see the screens, and there was a bit of ambiguity whether or not the rider was actually the bird having an out-of-body experience, with the annoyed bird-body continuously attempting to catch the eye of the floating oversoul. Networked to this was the private, two million pixel *Fakespace Boom 3C*, which apparently allowed you to look around while the pterodactyl-person did the steering through the inevitably progressing air. No one else could see what the person at the Fakespace boom saw. Third node on the network was yet another viewpoint, embodied in a high resolution and also resolutely private head-mounted display from Kaiser Electro-Optics.

People were also looking at birds differently in the Evans and Sutherland booth, which had SIGGRAPH's other user-mountable flying demo ride, a sort of Sports Simulation Gym where your body was a hang-glider space ship in an extraordinarily complex and enclosed high-definition city space. In the Reagan/Bush years, we would have immediately thought of the military as the buyer or maker of such flying rides, as well as flying things and uncontrollable carnivores. But now we remember that Link, inventor of the flight simulator, came to

that device from his work designing rides for amusement parks.

Link's flight simulator took the rollercoaster off the ground using pneumatic motion, making the rider into a bird in a box. Before computer graphics could match the realism of that motion, miniature landscapes were built, reconstructions of appropriate countrysides, which the flight-simulator pilot could see through a motion-controlled camera that floated on a grid above the model board. In this time before computer graphics, many people identified visual simulation with such physical miniatures, so that there it was no great associative leap from the model board to Disneyland. Of course, at that time, one of the logical associative paths leading out of Disneyland was the idea of government-inflicted simulation, presented "In Technical Simulation", as the *Firesign Theatre* put it. And certainly, visiting Anaheim's ancient Disneyland, it is very easy to arrive at an idea of the intimate linkage of entertainment and death, especially in New Orleans Square, where Pirates of the Caribbean begins, after establishing the cave, with skeletal pirates guarding gold, then proceeds through torture and rape to end with a ecstatically drunken pistol duel held in a gunpowder storage cellar.

In *Jurassic Park*, the one skeptical scientist hears Richard Attenborough say that a mechanized tour of Jurassic Park is as safe as any amusement park ride, and in response volunteers: "But on the Pirates of the Caribbean, if the Pirates get loose they don't eat the tourists". So what should we see when we look at birds flying free as a *Tyrannosaurus rex* through the air?

In "WAX or the discovery of television among the bees", Jacob Maker works on a simple, local network of flight simulators, a 1983 precursor to what in 1986 or so became SIMNET, a wide area simulation networking scheme which allowed a group of pilots in sizing in flight simulators somewhere in Tennessee to train with people driving tank simulators in California, all together in the same limited, synthetic environment. This sort of networked simulation prepared the way for the raid on Libya, the invasion of Panama, and ultimately for the Gulf War. The proposed successor to SIMNET is called DSI, or the *Distributed Simulation Internet*, if I have the correct acronym, which combines broader bandwidth with new graphics and networking standards, literally allowing an army of linked individuals, spread across the globe, to join each other in that military amusement park. Not formally different from what some people propose for interactive, navigable, immersive cable-TV games. Of course, what does program content mean in the context of this DSP?

Or what is history? One of the first implementations of the DSI was a minute by minute, foot by foot reconstruction of a Gulf War skirmish known as the Battle of 73 Easting. As you might expect, it

plays the battle forward and backwards, and allows you to view it from any angle. It also allows you to create alternate battles from this reality base. Considering how much history has already been prepared in cyberspace, it is truly meta-fictional that 73 Easting was presented to the Senate as the first example of virtual history.

Unfortunately, this is a normal theme in the history of the history of technology. Television is an excellent example. According to evidence presented in Steven Spielberg's earlier *Raiders of the Lost Ark*, it was possibly the God of Israel who invented both television and virtual reality. But according to the Nazis and some others, it was Paul Nipkow who discovered it in Berlin in the 1880's. His fascinating electro-mechanical telephone for the eyes coupled unique spinning-disk spiral scanners, known as image dissectors, with magnetically-controlled crystals that occultly served as light-valves.

Nipkow worked for city railroad company during the electrification and transportification (which is a deliberate rhyme with fortification) of Berlin, designing a street-car semaphore signal system. It is a not so odd fact that his television system mainly resembled the axles and wheels of a railroad car...two spinning disk scanners synchronized by a fixed axle between them.

By the 1890's, apparently the signal system was in place, the job had probably settled down, and in his private inventing life, Nipkow had moved on, bypassing further development on the television to focus on his new next obsession, the invention of a working helicopter.

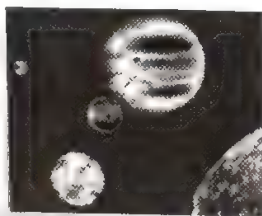
More than thirty years later in Weimar Berlin, construction began on the Funkturm, the "Eiffel Tower of Radio", defining what became the communications heart of Berlin, an area so important that it was later named Adolf Hitler Platz. Nipkow was an old man, and practical, low-resolution mechanical television systems based on his scanning scheme had come into existence in Germany, the UK, the US and elsewhere. This was television with less than 40 lines, but it was a commercial television, with regular scheduled broadcasts from the Funkturm by 1929. At that moment, it became clear that the real challenge for television engineers lay in high resolution television; breakthroughs in high frequency research promised broadcast systems and receiver sets with over 400 image-lines.

Certain people knew that this same technology would also make possible a practical system of radio-wave based detection and ranging of distant flying objects...what we know as radar. As a result, as mechanical television died a natural death, due in part to the worsening financial situation worldwide, a decision was made in the three main TV countries to promote the creation of a popular, entertainment-oriented high-definition television system; the goal, never publicly stated, was to create both the industrial and human resource base

necessary to design and manufacture a practical air defense system.

Which created a peculiar situation. Germany provides the best example. First, Hitler declared all German television research a state secret. Then the public search began for facts that would establish German priority in television research...historical priority. Paul Nipkow was snatched from obscurity to become a new national hero...the Father of Television. England replied, or maybe they started it all with the Edisonification of John Logie Baird, who became the Other Father of Television.

In every country, television history, like television itself, was discovered, or invented. Books were written, and in other places, factories were built. In 1941, not long after the radar machines were switched on in England, Holland, Germany, and elsewhere, Paul Nipkow died, which triggered his greatest honor...Paul Nipkow's funeral was broadcast live on *Fernsehsender Paul Nipkow*, the Nazi high definition TV station named after him and broadcasting from atop the Funkturm in Berlin.



5. Par Worlds

More than 50 years after Nipkow, or right now, as my more associationally minded colleague from Earth might say, we have mind amplifiers, as Howard Rheingold calls the modern computer. Artificial Realities have increased in number, mechanical and immaterial transportation have improved, and with the necessary increase in modal changes have come increases in the descriptive power of association and metafiction.

So, again, what should we see when we look at birds? Maybe, metafictionally, they could remind us of a navigational ethics...since the ride is so many different possible things, and since on occasion we are on the other side of the ride, go ahead and go where you are going, in whatever way you wish to travel, just try to remember you are responsible if you kill when you get there. Unfortunately, our usual sad situation is very much like that of the religious soul told to remember something after death, who, on arrival in the other world, only remembered once having had a conversation with someone, but not what was said.

Several months ago, at the 3CYBERCONF cyberspace conference in Austin, a fellow came up to me and said, "Congratulations, I work at Hughes Aircraft, and I used to have the same job as that guy in your film". In "WAX", Jacob Maker works on the Integrated Air Battle Mission Simulator, writing the code that controls the acquisition of target information. It is up to him to make sure that the gunsight

displays work, that what the pilot sees, whether by radar, infrared, or simple sight, does coordinate with his use of weapons. By congratulations, the fellow from Hughes meant that he used to be Jacob. After 12 to 16 hours in a completely immersive, photorealistic flying environment, it was time to go outdoors, and as he told me: "I'd go outdoors, just out onto the street, and I'd wonder...am I supposed to kill now? And what was really strange, you know," he said, "was that after a while, I started seeing these lines, they were just floating in the air, like the marks your guy was seeing in the film." The fellow from Hughes was much happier now, as he had gotten himself transferred out to a part of the company that was trying to find a way to convert flight simulators into personal amusement park pods.

Unfortunately, in either entertainment or war, navigation isn't usually free...it's closer to semi-autonomous. Often, in both, you can go where you want, but only as long as you make sure you kill and spend disposable income. Grotesque narrative dealt with this particular difficulty of navigational ethics in immersive environments long ago, by transferring autonomy to the artificial world...by stripping the creator of an artificial world of all free will, and passing a parody of that on to his or her creations. Such fictions are invariably metafictions, as there is always a rather smooth continuum from the created and autonomous world to the narrative itself, which, being also a creation, is implicitly also autonomous. This is half-way to recursion, the creation of endless mirrors, or other interfoldings of space and light, which in metafiction have always lead to worlds within worlds, just around the corner from us but burdened with other space-time rules not just alternate histories, but parallel universes.

When the Jurassic scientist, embedded in the belly of the anonymously piloted helicopter, looks out through the metal bird's window-eye at the free-floating pelican, it is easy for me to make the associative jump to the artificial life scientists, who watch freely navigating autonomous graphic agents on computer machines, and see life. They claim that automatism, of the kind once given rhetorically in grotesque fictions to describe an ethical dilemma, has now become practical. With this, metafiction becomes perhaps experimentally verifiable. Windows open onto other worlds that might be really be there.

The Game of Life is a computer program, a virtual, time-based machine that floats as distributed, changing patterns inside many popular mind amplifiers. This program consists of a small set of rules, a tiny grammar that controls an on/off graphic display of dots clustered together as gridded pixels on the 2D screen you see from outside the machine. The rules turn the pixel dots on and off, and make the dots interact with each other in order to determine the order of this flashing. Some of the patterns resulting from this interaction have the ability to grow and maintain themselves in complicated shapes.

which can move through 2-D screen space, and even reproduce. Writers and players of the game claim that these dot-group pattern behaviors are mimetic of life itself. They then on occasion argue that anything that so clearly imitated life must be alive itself, potentially with it's own point of view, as part of a limited but autonomous alternate world embedded within our own.

The Game of Life is an example of cellular automata in action. Cellular automata have also been practically applied to image processing. The pictures to be processed in this manner have often been machine gathered and transmitted to us through great noise from places not part of our normal point of view; for instance, the point of view of someone from can read the constituent parts of your blood; or the point of view of a TV camera on the top of a rocket plummeting out of control towards the Moon.

Pictures to be processed are divided into pixels, the grammars go to work on these pixels, forcing them to interact, forcing the picture to become more visible to us. Potentially living—or at least potentially autonomous—pixel groups self-organize into potentially autonomous, substantial, though still changeable image-shapes, leaving us with pictures that have more visible information than before the process started.

navigation through choices made by the machine soon becomes a primary form of story-construction for the maker...who has become a sort of aesthetic eugenicist

As cinema collapses into the computer, where it will meet virtual reality, science, and many other residents of our cultural world, we approach a situation where all the film production data, gathered from places beyond our ordinary point of view, is passed into a unitary workstation—the maker, sitting in front of the workstation screen works on this data like cellular automata on pixels, forcing various pieces of meaning to interact so that pictures will become more visible to us. However, simultaneously, the maker will also encounter real automata inside the machine.

The maker slowly navigates through the real time, proto-narrative space of the production data, applying any of a variety of processes to that data in any sequence desired, controlling composition within frames and between frames interactively, occasionally mixing real-world images with synthetic

objects or character elements—all the time composing literal and associative meaning. All processes from the manipulation of synthetic geometries to the collation of associations, have been partially mechanized, so that the narrative building proceeds with a partial autonomy that allows the workstation screen to look back. The mind amplifier has become a mirror, and at a rhetorical and virtual distance behind the mirror, anti-eyes connected to a anti-body in an alternate universe embedded in our watch back with a glimmer of narrative intelligence, ready to play you back all the histories of that 73 Easting patch of desert, including the many possible alternate flight paths of semi-autonomous weapons over that part of virtual Iraq, misguided missiles that are willing to stop and assist you with both spell checking and story building. If that's what the story requires.

In many Japanese newspaper offices, there are old and gunt composition typewriters with hundreds of keys for the thousands of pictographic kanji characters. Each key has 21 shifts—the Roman alphabet almost hides in a single key. Written, however, now use personal word processors with the same number of typewriter keys we are used to, that hold both the miniature, alternate Japanese phonetic alphabet, along with the Roman. As you type, the computer collates your pseudo-phonetic strokes, compares them with a built-in kanji chart,

and offers you choices of alternate kanji pictures in a menu at the bottom of the page. A spell checker in reverse, an inadvertent poetry machine mechanizing the processes of association. In cinema, as it slowly collapses into personal computers, kanji are replaced by images and sound, and the pseudo-phonetic alphabet by your descriptions of your images—the computer offering fill-in-the-blanks association opportunities (or, in less delicate software, spell-checking necessities), to help you get that story into reasonable communicative shape.

Give names to pictures in a semi-intelligent picture processor, and the machine begins to sort the pictures into proto-sequences. The maker looks at these, chooses the clumpings that are pleasing, perhaps adjusts them a bit, then turns back to the machine, which reapplies its ultimately rhetorical rules of travel and association, adding organization

in several possible ways, which are then again chosen from. Navigation through choices made by the machine soon becomes a primary form of story construction for the maker, who travels through machine-offered potential worlds, choosing the ones that become virtual worlds—leaving a trail of partial and rejected universes behind the maker, who has become a sort of aesthetic eugenicist.

The maker is still on a flat-bottomed boat in Pirates of the Caribbean at Disneyland, traveling inevitably forward, though in this case building rather than viewing. Whether traveling through alternate worlds, traveling through immersive environments that force the creation of association, or traveling through mechanized association in order to create immersive environments...navigational ethics remain a priority. In the future, when you can go anywhere you want, cinema by whatever name, will become a grotesque without grotesques—a metafiction where information wants to be free, and stories possessing senses, skills, and resources stutter in and out of existence in digital space-time, on earth and in other worlds. With immersive environments now even embedded within one another, with modal changes available at any moment, and association almost a style of knowledge, it's good to remember—though it may be difficult to remember what it is you are supposed to remember.

I personally work in the area of cinema that I call image-processed narrative: a type of narrative where both the images and the narrative are processed by both myself and machines, and where, in the process, navigational ethics are attempted. So I personally welcome this, our new proto-future, where the past imitates the future, where metafiction is potentially experimentally verifiable; where, as in the book I read last week, wrinkles in the universal background cosmic microwave radiation lead an enviably optimistic popular cosmologist to the conclusion that the universe is alive, that it reproduces, and that as a result that are infinite connected or embedded universes probably related, struggling through the impractical difficulties of evolution in action. A proto-future world where new and old media imitate one another, where the single user is not much different from the single author, and where rhetorical autonomy has been extended to machines—though hopefully, it will be given to people in equal or greater amounts. *W*

CD-ROM hypertext projects are underway for WAX, and a MOO space will be coming online at Hotel Moo at Brown Univ, late spring or early summer '94. Check our FWI product catalog (p.42) for information about how to purchase a copy of the video. To contact the author, email or write:

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David Blair's *Wax*, a video narrative, exemplifies what an artist can do with electronic DIY technologies, plus a bit of time and tenacity. David is fascinated by immersive environments and virtual representations of space. *Wax* is a Chinese box sort of film, an exploration of infinite spaces within spaces, and beyond death. His expansive vision encompasses microspace (the hive) to macrospace (the Moon, the universe), and he bends time and any other dimensions that get in the way. A dedicated video artist, David retained full control of the production from inception to completion, and handled the word of mouth marketing (including transfer to film for presentation at art houses, and a broadcast across the Internet's multimedia backbone).

This interview was conducted in May 1993, at JCYBERCONF, the Third Conference on Cyberspace in Austin, Texas. While *Wax* was presented to a standing-room-only audience, David and I sat in a stairwell, appreciating the echo, the sense of space...

David: Hey, cool! Testing 3-2-1. Nothing.

Jon: Far out! This is excellent.

D: We oughta take our glasses off. Here we are in the stairway of the architecture school.

J: Well, tell me, what led you to make *Wax*?

D: Jesus Christ. My lord and savior carryeth my blood, in absentia?

J: We had this thought that you started with some archival footage.

was bees. And then I went to the library and put together a very loose three-act structure, but that was more like some sort of telephone.

J: It's sort of interesting that this is showing at a conference on cyberspace. Did you have any sense that this was a cyberspace or virtual reality project? Did you see it that way?

D: No, I actually heard about it two years into the project, somebody started telling me about *Neuromancer*, that I ought to read that book. I kept writing until I was all through. Then I started to read about virtual reality and cyberspace, and I thought, well, this is strange, it's interesting, that I got something to do with this. The thing that I was saying before about... perhaps the attraction was that a lot of the definition of the trope of the grotesque are spatial metaphors. Since it was an artificial space, that seemed to be a good place to carry disorientation, dislocation. I'm coming out of *Psychon*.

J: Actually, I suppose that a hive is something like a network.

D: Yeah, sure. It's funny. It's really temic to read all the A-Life stuff, both because it's like the scientific verification of metacreation, and all sorts of other, like Borges, experimental Borges or something like that. But also it's an explication, like, this is what *Gravity's Rainbow* is about. And it's interesting, like the Levy book, the whole first half, is

story space, and you hear space-this and space-that, this whole grotesque... it's like bees. Or Jews, in the same way, too.

J: This conference is sponsored in part by the School of Architecture, and it took me a while to understand why architects were interested in a space that was not space, you know, virtual space.

D: Why do you think?

J: Well, I think they see it as a very malleable kind of imagined space, that they can play with in a way that they can't play with "real" space. They don't have the same constraints as in concrete reality. There's a lot that you can't do that you might like to do. A really good architect probably imagines a lot of spaces that are not practical in the physical world, but they have pretty free rein within a virtual world. And it probably brings some set of challenges, some new set of constraints and restrictions, that they can play with.

D: But the constraints and restrictions, I wonder what they are? It seems like that most interesting stuff that they're doing is all of this visionary architecture stuff, sort of non-spatial architecture, where they have lesions and transformations, and strange visualization. Places you couldn't build.

J: First thing I heard Marcos Novak talk about, not quite a year ago, was very similar to what you got in *Neuromancer* when Gibson talks about

the only time they got uptight was when I talked to the information officer when we were driving out to Trinity Site, and said "So what about Dan Fry?"

D: Oh, no. The literal description is an image-processed narrative. It's kind of a dead phrase to start out with. The image is processed, and the narrative's processed. That would mean that you might have a little bit of story, and you might find an interesting picture, then there's an ordinary collage process. And they both change shutter, and then that sort of builds. It starts as a narrative, a story.

J: You had written a structured narrative.

D: It's one of these pieces with very fuzzy dimensions, because it came from some very long automatic editing pieces that I wanted to cut down, and which I'd done with a previous piece. It had a very, sort of, *absent* narrative, like a narrative where everything that's pulled out of it seems like a poem I wanted to go put it back in, give it a real strange structure of narrative. I had my trope already chosen, 'cause that was the title, *Wax*. The trope

about *Gravity's Rainbow*. When I was doing my early research for the film, I was reading some post-modern critical texts, and when I read it, it was like when I read Pynchon when I was in high school you could never find the stuff. Now here there's all these people writing about it, and they're explaining all those dense things you could never figure out when you were eighteen.

J: Did you reread *Gravity's Rainbow*?

D: No, but I'd read it many times.

J: I looked for the giant adenoid in your film <laughter>

D: I was reading some great stuff. The next film is called *Jews in Space* <laughter>. That's why I'm here, actually. It's for research for the next film. There are spaces as metaphors in so many different things that are so interesting, like the hypertext stuff is writing space, and the authoring software is

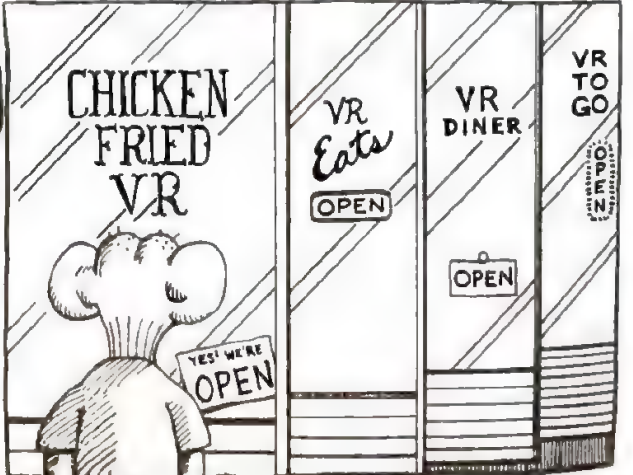
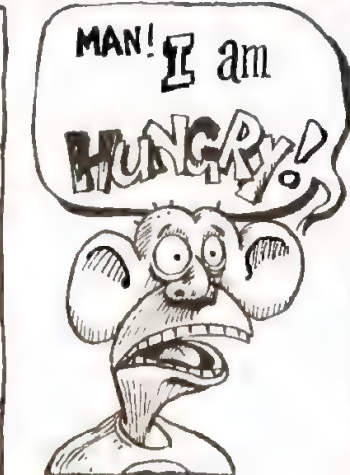
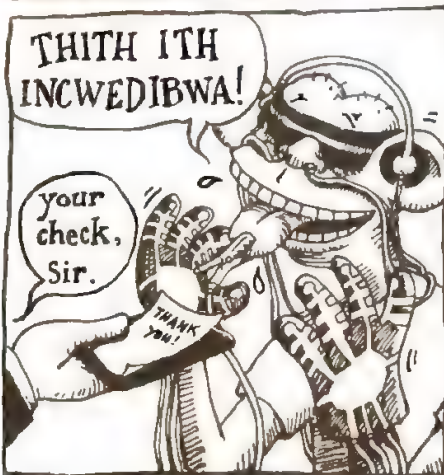
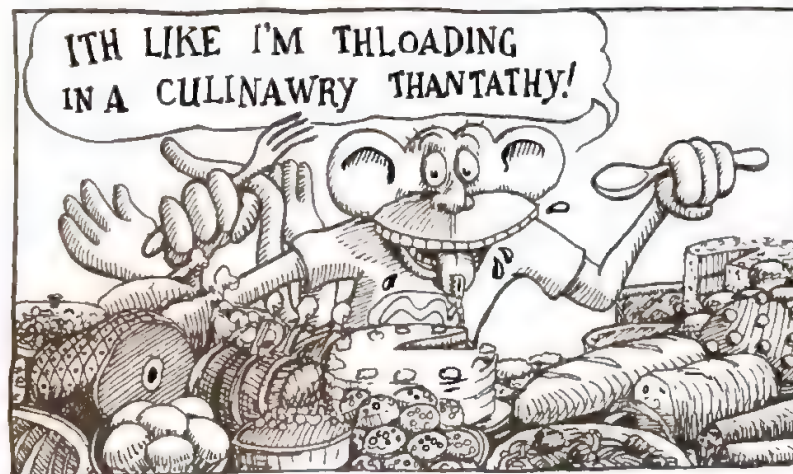
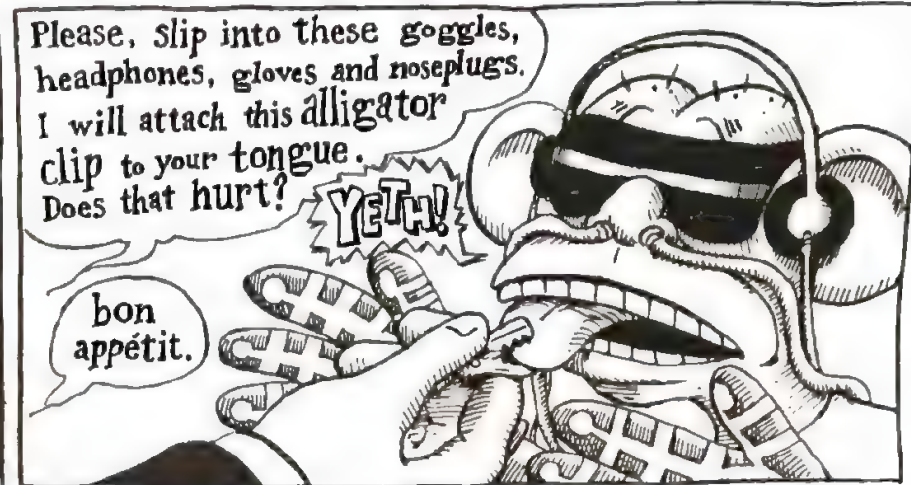
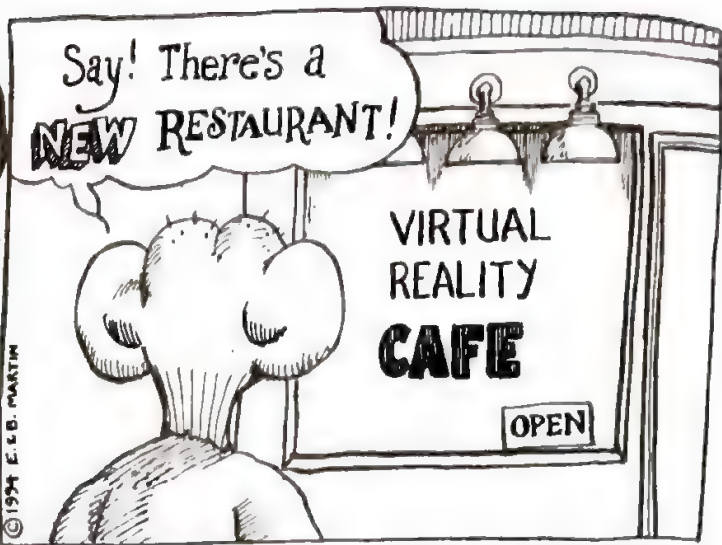
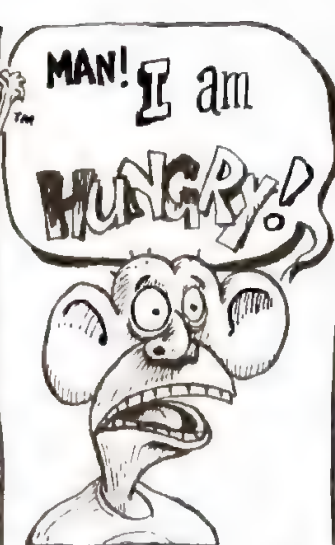
visualizations of data. And Marcos had actually taken data and converted it to images and to sound. He would take whatever data. I'm not sure the source of the data, but he would convert the data to visual representation and to sound, then he would combine the two, so that he would give you a presentation of color slides and sound both built from the same data.

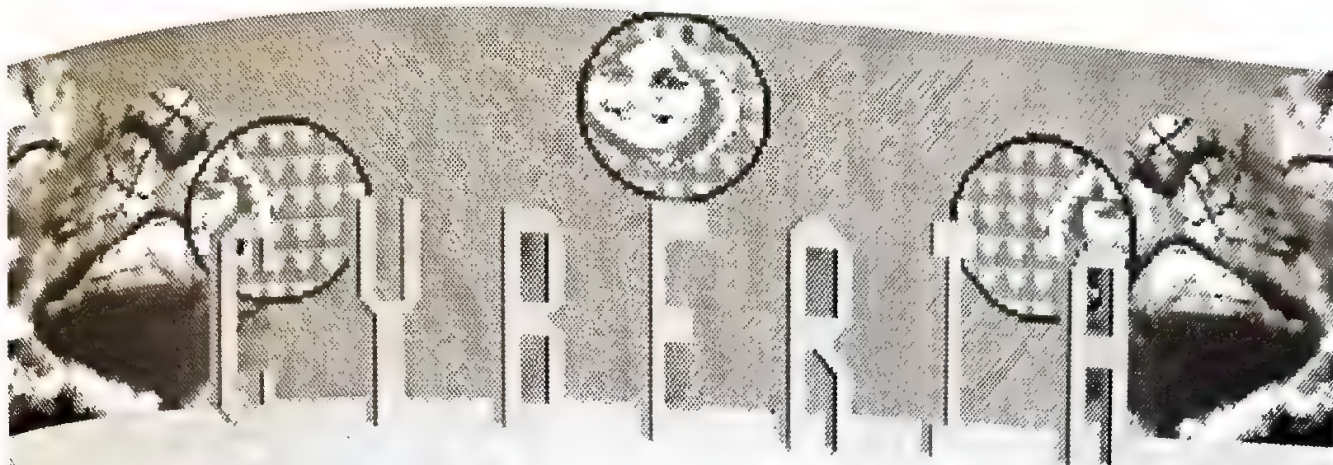
D: And what would the data be?

J: I suppose random data sets. I don't recall the exact sources. It struck me in much the same way as the visions in *Neuromancer* and the other books in Gibson's trilogy struck me... a sense of visualized data, the consensual hallucination of cyberspace... you've read the books?

D: Sure.

J: When Case is jacking in, he's seeing things, and giving visual descriptions of what amounts to

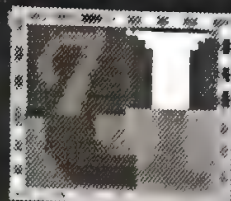




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architectures of data. I think that guys like Marcos are really turned on by that kind of concept. I'm not sure what those guys are doing now—

D: The part I really liked about his essay was what he termed a visionary architecture. What I liked about both of 'em, actually he did some stuff like alternate geometries and the antigravity stuff, extremely sublime things, like huge... like Nazi architecture, but with a different moral purpose.

J: There's a real sense of space in your film, too... of very strange spaces. When you move from the more enclosed spaces of the dives to the desert

Dan Fry still lives in Alamogordo, and he was one of the second generation contactees

J: UFO contactees

D: Yeah, the space brothers. The first ones were those folks, the Silver Shirts, the American fascists. This is all sort of Pynchonesque stuff. This is like Captain Blicero. I picked up on this, that Captain Blicero was a little bit molded after this guy who worked for JPL, and was with Yukio Crowley and was making a moonchild. And he founded Arrowjet, the company that made rocket engines for the iterations of the V2. Still a big company, they do propulsion, and they probably do guidance. And he died at his home making rocket fuel for the

find out about the whole... there was this 25th anniversary of the famous first sighting, I guess that's '47 or something,

J: Yeah, that's the Kenneth Arnold sighting

D: Yeah, the Kenneth Arnold sighting. Or maybe it was the 30th. Anyway, it was 1985... no 1987, so it was the 30th. And there was this whole thing about *MJ-12* and *Majestic*, and that was wonderful. That's when the so-called *MJ-12* papers... have you read those?

J: No, but I know of them

D: So I got those. It was *Majestic* and it was in Roswell. They characterized these entities that they dissected as "extraterrestrial biological entities", or EBEs. This is two years into the narrative <laughter>

J: What led you to the bees? Where do the bees come from?

D: Oh, they're just a multitasking... just about anything. It's one of those places, it's like a nice node to use, because you can travel in all kinds of different directions. And actually, trying to construct the story, I found out that it's actually really hard to find the sources of the sorts of intuitive tropes, I mean intuitive metaphors, that came from it.

J: I recall that once, when I was doing my Buddhist thing—

D: Your Buddhist thing? When was this?

J: Well, sometimes I lapse into Buddhism, and at various times I've been known to strongly resist killing things. There was some sect that somebody wanted me to kill, and I was refusing to do it. One of my newage friends told me that it was fine to kill it, that it was really okay, because it was a group mind, so I would only be killing one cell in a group mind, I wouldn't be killing the whole personality.

D: Right, it wouldn't miss its mother

J: Which is sort of the way I see the thing with the bees, the hive is the personality, rather than the individual bee.

D: Perhaps. I mean, you can have two separate entities that are still the same set.

J: On the other hand, hrm. Now I'm thinking about multiplicity. Sandy talks about multiplicity and the importance of acknowledging multiple personalities within yourself.

D: There was a great thing on Maury Povich the other day in New York, it was wonderful, where they had a multiple personality person who said she had 247. She came on with her doctor and lawyer, and regressed.

J: Wow, how many personalities did she do on Maury Povich.

D: Well, she just did one.

J: Just one? <laughter>

D: Just one. And then, just two weeks before, they had that on *Star Trek*, you know, the "mother goddess" one, did you see that one? Where they end up on a planet trying to get the last strand of DNA, and the Romulans and Cardassians and Klingons are there, and that started with a multiple personality sculpture, a piece of sculpture that said <gasp>

it's got 2,000 dissolves, so everything just moves slowly from one place to another...it's like some kind of involuntary lucid dream happening to somebody else

scenes, and you have outer space and you have caverns. Was that what you were playing with?

D: I don't really know. That's partially, maybe intuitively, why the next one, *Jews in Space*, because it seems that I can find a place to organize that, to pack more in or get a better hook on why that is. I'm not too sure. To be interesting you to have a lot of things, and a lot of actions means a lot of places, we're just used to that. There could be lots of different influences, for instance the forms of video art, which is what I am, a video artist. Not really because it's electronic, but because it's feature length, it doesn't really fit into video art, so it's more like electronic cinema. It's not a film.

J: Expanded cinema...

D: A lot like expanded cinema, yeah, except it's not really expanded in the (Gene) Youngblood sense, because it's not an immersive environment except in a traditionally imaginative immersive sense.

J: I thought it interesting that you chose Alamogordo as a setting. What led you to Alamogordo?

D: Coming out of video art, I'd been doing a performance, in a very private sense, about Alamogordo. It's something I didn't know anything about, and it seemed a place...when I'd gone and done performance, I found a bunch of strange facts, isolated facts. What triggered it is just the memory of that, like one summer reading about mechanical television, and reading about some Russian orthodoxy, and reading a little about Alamogordo when I went back to the library to read about the bees. I just looked up Alamogordo and found a wonderful book called *The White Sands Incident*. But it wasn't a book, it was the original bound pamphlet.

moonchild. He'd gone out to the desert and met the space brothers. What's strange is that Fry did the same thing, but it was sort of like the VHS, it was also a little bit silly. The drone descended, and they had long conversations, and later on he helped the fellow get a green card. <laughs>

J: Did you see any UFOs?

D: No, I could put on my bee suit at Trinity site, and I could walk around in front of one of their command posts, but the only time they got uptight was when I talked to the information officer when we were driving out to Trinity Site, and said "So what about Dan Fry?"

J: Actually, there's been a lot of weird stuff in that desert—

D: Well, Roswell, y'know. That was one of the synchronicities...when you put any story together, you always find things that were there before you made up your ideas, and they match. Like the woman who gave the third speech today...she was talking about synchronicity, it was really wonderful cyberspace and synchronicity. It was a very dense speech, again a Pynchon thing about cybernetics, and the conflict between control and anarchy, between homeostasis and proximity, and the series of debates that were probably set in the early and late 40s and early 50s, and which Pynchon probably read.

So I had this whole thing with the bees, and there were bee UFOs at one point.

J: Instead of bee television?

D: Yeah, there were bee UFOs. They're actually the original colonies under Basra. And the Army's gonna send shrunken guys to Basra to see what these bees are doing. But that was early on. Then I

voice>: "The dead people who used to live before..." and of course, Captain Picard said "Not the people that I time-travelled back to live with, my family, but instead this other people that I studied in college..."

J: Confusing.

D: Not so much! <laughter> What's really interesting about this, and the A-Life stuff too, is that there's just so many literary devices that people are using, and it's like... does this mean that they're going to be reading Borges in grammar school? <laughter>

J: You were a stone's throw from Los Alamos, too, where they're doing all that strange A-Life research that everybody worries about.

D: Really? People worry about that, huh?

J: Steven Levy seems to worry about it.

D: Oh, the green-goo/grey-goo?

J: Yeah. At least, I think he talked to enough people that he seemed to think about being worried. At least, that's the impression I got when he spoke here.

D: I guess it's the nanotechnology—

J: I think the concern that he discussed was that eventually, if you start creating these artificial life environments, that they could take a life of their own and start to really do things. I believe it was Sterling or somebody that said, "Oh, hey, yeah, why don't you pull the plug?" <laughter>

D: Right. Don't put your body inside of a computer. Don't have sharp keys.

J: Wax for me, the first time I saw it, was like I'd fallen asleep reading the *Tibetan Book of the Dead*. <laughter>

D: With Jesus Christ at your shoulder, right? Very small, and you feel kind of dirty...

J: Were you trying to—

D: No. <laughter> It's a grotesquerie. So you can use a lot of different things. And a grotesquerie, too, is always negative speaking. They always have more purpose than they ever talk about and they're actually content to be a little bit too moral, a little too clear. But they're always kind of the not speak correctly and use a lot of the... you know, it's joking.

J: And then some people don't get the joke.

D: Yeah, well, that's okay, as long as they drive safely. <laughter> Or have a designated driver.

J: What did you think about those comments about falling asleep today. Do you have people say that they fall asleep when they're watching Wax?

D: Yeah, well there're folks who walk out, too.

J: But I didn't get that as an insult. I've had people talk about falling asleep while they're watching Wax, but not in a negative way at all... it was sort of like they got into a kind of theta state, where they were just sort of in-between. We showed it at my house once, very late, at a party, and there were a lot of people who were just sort of lapsing in and out, and they were beginning to be confused about whether they were asleep or awake. <laughter>

D: Or whether they went inside of the TV!

J: Exactly! Exactly. They were watching bee television—

D: It was meant to be wide awake material, for sure. You don't often get a film that's wall-to-wall dissolves... it's got 2,000 dissolves, so everything just moves slowly from one place to another, and the voice-over is, definitely some people really like it, because it's an anchor, or maybe they can read the irony; but some people think it's a drone-on, and that's not what it's meant to be. It's meant to be jolting, to keep you awake. Some people, it keeps awake... some people, it's like some kind of involuntary lucid dream happening to somebody else.

J: Maybe you could repackage it with a rock and roll soundtrack.

D: Right.

J: Is *Jews in Space* going to be more of a conventional narrative?

D: I had the idea the other day that they'd all be telepaths, so it would be without dialog. <laughter>

J: Dialog's kind of a pain anyway, isn't it?

D: Well, I talk a lot on Wax, but it's all dubbed in, so it's asynchronous. But I don't have actors, and I can't change the way I like to make stories, so that'll be pretty similar... the same sort of logic. Smooth, logical transitions that can go step, step step, and you're surprised. You actually pass some steps in-between, and don't know where you are, or you know where you are, but you don't know how you got there.

J: Did you ever feel that way while you were making Wax?

D: Well, of course.

J: Did you have trouble making an end?

D: It was really hard, yeah. It wasn't over until it was over, in a way.

J: It took... what? Six years?

D: Yeah, it was pretty straight. I always tell people how I read in a book that the standard for an independent film is four years, and that's if you're really on track.

J: I was talking to Rick Linklater, director of the film *Slacker*. He's made a second film called *Dazed and Confused*, which is more a conventional studio film.

D: Is this the teenager movie he was talking about? [see p.23 for more details—eds.]

J: Yeah, and he was talking about the hassles of working with a studio. In a way it wasn't a hassle, actually, because his budget was so small, and he was always under budget... so they didn't pay that much attention. Have you thought about working with studios?

D: Well, the last one was half grant, which allowed me to keep control when I went to get the full production onto television. The studios, for something like this, which is electronic cinema... the context is different. I'm not sure what it would be, what it would mean. Any smart producer would set it up for absolutely maximum latitude. That's why I

wouldn't expect it to happen. I don't know if you would hit roadblocks, or what.

J: Would you feel comfortable working with film rather than with electronic media?

D: No. It's not plastic.

J: So you're pretty much an electronic or video artist.

D: Yeah, absolutely! Well, the rap that I give folks is that video has been trapped in a short form ghetto, and keeps itself there. And it's partially the result, especially, of editing. That's been the trap, to date. There're reasons that folks can't take all the plastic and narrative ideas and ways of thinking that have evolved over the last 25 years and colonize this electronic cinema... that's going to come anyway. There's no reason that just by some strange birth you couldn't have an independent electronic cinema that happens at the same time as a commercial electronic cinema, and just like you see in VR talk, it's not a question of bandwidth. In the film world, nobody liked Wax, and anybody that I asked seriously should I transfer this to film thought I was completely out of my mind. But I did a cheap transfer, and it's low resolution video... but you put it up on the screen, and people really forget about it after a while. Partially because of formal characteristics of the project, I mean it's television... but that's not really even the point, y'know. It's low bandwidth, and it's there on the cinema, and I did it myself, it's not high definition television, it's video.

J: Some things are not meant to look like an ad in Vogue.

D: There's a bunch of cinema now that is being done like that. There's a lot of low resolution cinema. But it's actually more than just transfer to film, the idea is more a sort of integrated tools... the editing tools, computer-based editing, which allows you to edit like composing on paper. People can do it in a small collective, or they can do it individually. There's a lot of other examples, a couple of other sub-branches of cinema where people are doing electronic, doing it cheaply, and bringing it out to people in areas going the traditional route, giving the film an identity by getting theatrical release, and being able to take a previously inaccessible message out to a public. Then get a real cassette release that you can actually sell in stores. That's the entire gay cinema right now. I think that's where most low resolution stuff is coming from, or it's happening in documentary, except that documentaries don't find their way to theatres, they find their way more to the institutions.

J: I was reading about a weird distribution system they're going to have now for CDs, where—

D: Oh, they pipe it in, right.

J: Yeah, they pipe it in, basically you can download it. You could do that with images too.

D: That's still early enough so that people if you were canny, you could go out and trick people out of their digital rights for \$40 or something like that. I heard a lawyer talking about something like

that. That's not really deliverable in the short term. In the distribution of *Wax* now, I've rubbed up against a couple of places...like we're releasing the film in Japan in June, and the distributor wants to do a CD ROM. But it's a little picture like that. Or next Saturday we're going to do a broadcast on the Internet, on this thing called the *M-Bone*, or multimedia backbone. It doesn't go everywhere, there's 400 sites that can pick it up. That's black and white, three frames per second, with mediocre audio. And that's like CD or wire delivery. We're still pretty far from it.

J: It'll come along pretty fast, though, I think.

D: There's a lot of yattering, I don't really know much...but it could be a return to the early cinema distribution days, where you get various kinds of

distributors, they sell to the majors, but there was no place for it. And if I couldn't get it to a distributor, how could I get it to a theatre? So then I got lucky. I finally signed one of these deals where I was going to put it in a package with a sort of high modernist film from Czechoslovakia, a love story from Mexico, and a Chinese film, and it was going to travel around. And just by accident he gave it to the Public in New York, and the guy at the Public really liked it, and gave it a week, after it being rejected every place else. It was late August. He knew it was the right time to play it, but somehow it was a film that critics liked, but they also couldn't be kind to, for some reason, because it was so different at that time. So I had a great opening in New York.

perhaps the attraction was that a lot of the definers of the trope of the grotesque are spatial metaphors...since it was an artificial space, that seemed to be a good place to carry disorientation

vertical and horizontal monopolies. The theatre then, and Sony owns the video store, owns Blockbuster, and Sony signs deals with MGM, and whomever owns what. If you're an independent, there's no way you can actually get your stuff in the pipe. Or if you don't sign something, or if you don't play somebody's way.

J: You started just distributing it yourself, didn't you?

D: Well, I had to. Most people do it, because otherwise you throw it out. People told me to throw it out. But I got very very lucky. I worked hard to make a good piece, and I worked very very hard for a year to get it distributed.

J: You had good press, too. I first learned of it from the *Mondo 2000* piece.

D: I worked really hard for that press. I didn't really know about the cyber community yet, and it took me a while to find it. I spent six months in pseudo despair. I couldn't even get anybody to say that they liked it. I couldn't even get it shown in traditional video circuits. So I wrote Steve Brown of *Science Fiction Eye*, and that opened everything for me. Steve said "There's Richard Kadrey, in San Francisco, who'd be really interested in it." And Steve said, "I'll give you a free ad, why don't you sell some cassettes." And then Kadrey introduced me to Larry McCaffrey...

J: So you spent all these years putting it together, and then—

D: There was nothing to do with it. I knew what I wanted to do with it, but nobody wanted it. Now the independents are self-organized, they have their own markets, they have their own

J: Good luck.

D: Good luck!

J: Have you been long on the Internet?

D: Actually, Kadrey was the first person I ever wrote to. I had it for about three years, to do something for *Wax*. There was a Pixel machine...I was going to send 3D files up, and they were going to render them with this fast computer. But I didn't know. When you get on the Net, you get an account but you've not been instructed on the culture...I didn't know that you could mail, I didn't know that you could do anything. Richard taught me how to do it.

J: So Richard brought you to the WELL, too.

D: No, I went to the WELL because I was opening in San Francisco. I was very cheap, of necessity. Some student here was talking about the hierarchy of cyberspace, how once you get out of the University, and you get some cash, you go to this zone, and it's like the high-rent district. And I can't afford that, I can't afford to stay on the WELL. My feeling about it is that I prefer to surf Usenet, and not get into these strings. But that's partially also because I don't want to pay for it.

J: The WELL is sort of a specialized environment.

D: A rich one, for sure.

J: It's sort of elitist, but it's an elite that I'm comfortable with. Actually, there are people who would sacrifice a lot to keep their WELL account, and keep those connections. It's really useful. When *BOING-BOING* went professional, or went from being an amateur zine to full distribution—

D: When was this, about a year ago?

J: Yeah, something like that. Mark and Carla had been editing it themselves, then with Gareth. When it became a national publication, they wanted some other people to come on as editors. We had all been talking on the WELL for a long time...so it was basically folks who had been talking on the WELL about their various zine projects, and about *BOING-BOING*. Much of *BOING-BOING* is assembled online, the editors are so widely dispersed. And that's one of the possibilities of the Internet, that you can get into collaborations with people, that you can collaborate online easily.

J: How do you feel about the way *Wax* is doing?

D: Well, I can almost stop and give it up now. It's doing real well.

J: Has its own life?

D: Well, no...but it's been in almost all the major theatrical markets, it's played most of the big cities, and the main point was to create an identity for it, so that people could then start to hear about it, and the theatrical booking at this point will be colleges. I'll put it out as a commercial cassette in six or eight months, and it will go to video stores, and maybe word of mouth will finally make some broadcast sales somewhere, and then there's overseas distribution. At this point, the two reasons for doing it were to make my money back, and also to create space for the next one. So I'm real ready that's why I came here, I was going to show *Wax*, but I don't really want to present it. I came to meet folks, and to get some space information...space talk.

J: Do you think it will take as long for you to make your next film?

D: Yeah, it'll take a while. It's been an asynchronous year...it'll probably take three more years. It's fun, it's not a problem. People have different methods, and mine personally happens to be quite slow. The narrative is folded and requires a lot of attention to detail, a lot of back story, even though it's not all visible. But it's hard to say, maybe I'll gain some experience that I don't expect.

J: You impress me as having a clear sense of what you want to do with the next film, and that you had the same with *Wax*.

D: Well, *Wax* was an inarticulate and inexperienced idea of what to make, and I'm more experienced now. But the experience will be used up in a slight change of scale, so it's all uncertain. But I know what I want, sure. Like everybody, like all the VR people <laughter>

J: Right! 1/6



WHERE DO babies COME FROM?

by Jamie Miller

Your parents probably told you babies were brought by storks, or found under cabbage leaves, or picked out at the hospital.



Worse yet, they probably told you the big dirty secret about Sex!! But none of that is true!



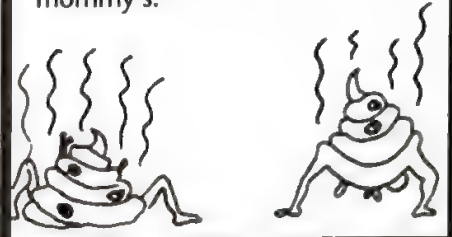
You see, babies are made when mom and dad combine special cells called *fjords*. They have to take profanity pills for weeks. Also, they must eat the incontinence fungus to help make a baby.



If alien bacteria get inside your parents, this is called *compilation*. The fjord cells must fight the aliens, known as *immolations*, in a process called *ejaculation*.



If the fjord cells survive the fight, they join in the stomach of each parent and form colonies called *silicones*. The silicones prepare to leave daddy's body and go to mommy's.



The silicones turn daddy's stomach inside out. Mom makes a daquiri from the silicone sludge and drinks it. Now the sacred process of *radiation* begins. Baby is not far away!!



The silicones radiate, transmutating into a baby, which begins to eat its way out of mom's stomach. A *Caesarean section* is when the baby successfully chews its way out of mom's tummy.



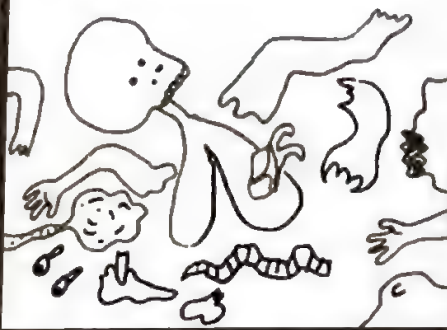
Usually, though, a doctor performs a *tubal ligation* on mom, which means he yanks the baby out of her mouth. If it's a mean baby that bites, the doctor will perform a *bibliography*, which means he kills the baby.



But if it's a nice baby, the doctor will remove the gum-scum from the baby's throat. He mails it to candy companies and they make bubble gum with it.



If the baby comes out in several pieces, the doctor must perform a *bitmap* to reassemble it.



Next time we'll discuss *sedition*, or human mommies with puppies; and *trachea*, or human mommies with kittens.





A(lfred)

Alfred ate Alpha-Bits. Alfred ate and ate. Alfred ate abalone, apples, alligator, and aspic. Alfred ate.

B(iblical)

1. And it came to pass that a notice went out through the land that a barbecue sausage-eating contest would be held in Amarillo, Texas. 2. Alfred, son of Max, then heaved his butt up off his recliner and went straightaway into Amarillo. 3. And coming upon that great city of the plains he marveled at the iniquity he found. 4. For he had not looked upon MTV. 5. Nor slept upon a bed with Magic Fingers Vibra-Massage. 6. And Alfred, son of Max, cried out to the Lord of Hosts for strength to resist the temptations of foul wickedness.

C(astenada)

"It takes years of training," don Juan said, "to become a trencherman. There are four great enemies to the man of food."

"What are these enemies, don Juan?" asked Alfred, his *tacos al carbon* leaking onto his notebook.

"The first is indigestion. The second is flatulence. The third are health food activists and the fourth is death. Indigestion is the pain which comes from having eaten too well. If you turn away at this point, you will never be a man of food. The man of food perseveres and learns to take Pepto. The second enemy is flatulence—the barking spider which drives away the dog of good taste. The man of food must learn to tolerate flatulence, and then either accept a life of solitude or seek out companions who are not afraid of the thunders coming from his nether parts. The third enemy may manifest in friends, co-workers, or even family. They will tempt you from the path of heartburn by offering you tofu and sprouts. Remember the words of the great Elvis, 'If what I eat doesn't kill me, it will make me stronger.'"

"And the fourth enemy, don Juan?" asked Alfred.

"The fourth enemy—*death*—can be held off for awhile by will. But even a

man of food's will fade, and death will touch him on the left shoulder."

D(eath)

Alfred viewed the great body of the foodking in its distended rhinestone-covered jumpsuit. The king was dead and he would always be dead. When Alfred walked from the chapel he saw death fucking a bitch in heat, and he saw death flying on orangeblack wings from rose to rose, and he saw death asking the stewardess for a diet Sprite, and he saw death packed in suitcases on the carousel, and he saw death driving home in a minivan, and he saw death sleeping with his wife Molly, and he saw death in two walls meeting at a corner.

E(lvis)

After the funeral, Alfred wrote these words, "He was fatter than a tick on a *Hound Dog*. He was more lonesome than the *Heartbreak Hotel*. That *U.S. Male* will never *Walk Alone*. He's in *Paradise (Hawaiian Style)*, he's on a *California Holiday*. No more *Jailhouse Rock*, there's *Peace in the Valley*. He *Walks Beside Me His Hand in Mine* with *Burning Love* Forever Elvis. Molly doesn't understand me, but Elvis is my inspiration. He became the perfect human sphere of planetary consciousness."

F(innegan's Wake)

Alfred Barbecue Consumer, allbitterand-cupper whatbetween his cupgirls and his platterboys hoothollered for all the fixins mox soonly if ye pliz. Smashing the idahofruits cum Reganvegetable he grew back into his grossery baseness and with All Bekinds of Commeup-pance and grand remonstrance let fly the greathundered letter fart, "Pootre-toothemagikalfruitquablahrebooten-tonnerron—tuonnthunntrovarhounawns kawn-toonoonoor-denen-thumnuk!"

Und his tribespuppys y his clanmuf-fins did turn their ears to list to hear of the word of crapulation. Say agin Finn!

As Becomes Caput had headly started to fart when the vibramessagesirens sang sweet lullaby, "Sleep A Baby! Sleep A Baby Creep. Sleep A Baby!"

And sleep he did synopticked on the word of Christ Begob!

G(ilbert and Sullivan)

A wandering foodman I
I bounce from county to county
Absorbing gravies like Bounty,
And scarfing a many a pie.

H(omeric Epithet)

Much-enduring noble Alfred dreamed wetly of his white-armed Molly and his long-lost Alfreda when the treacherous vibra-bed broke. God-like Alfred hit the unswept floor and bellowing like the loud-roaring sea, he summoned blue-clad security guards. Thus the rent-a-cops dear to Areas did lift up Alfred-of-many-counsels and quieted the irate tenants of well-built Motel Six. With the aid of the night clerk, Igotta Singh, a friend to man, Alfred B. Comstock got a new room just as rosy-fingered dawn began fingering the Texas sky.

I(gnorance)

Personally I don't know anything about it. I suppose that a fatman could've been staying in the room next to mine. It could've been a Motel Six, I just don't know. Used the vibra-massage all night? Well, I don't go around listening at my neighbors' keyholes. Bed busting at dawn? I really don't know. I haven't much of a memory.

I only remember the important things, you see. Things like. Well, it will come to me in a minute.

J((orry)

Alfred (entering the Denny's and pushing his way past waiting families): Horn-strumpot! By my green candle! I will have a breakfast, a manly breakfast, a breakfast to stimulate my appetite for the great eating of this afternoon!

Waitress: Sir, if you'll just wait your turn.

Alfred: Wait! The great Father Alfred waits for neither time nor tide. Fetch me one of each of egg dishes and begin deep frying some peanut butter and banana sandwiches.

Manager: Denny's does not serve its famous breakfasts to the rude, crude, or lewd

Alfred: I am, sir, not only a champion trencherman, but also a scientist. I bestow an honor upon Denny by allowing him to serve me.

Manager: And what sort of scientist are you, sir?

Alfred: I am a 'pataphysician. 'Pataphysics is a branch of science which I have invented and for which a crying need is generally experienced.

Manager: I suggest your peddle your inventions elsewhere.

Alfred: Pedal? A capital idea. I shall transform yonder table into a bicycle-table thus I will be able to burn off calories almost as fast as I consume them. Order those people away and order me twelve omelets.

Kafka

"Are you sure," the clerk asked A., "that this is a current notice? I think perhaps it is an old notice. I am sure that if a contest were to be held here I would be the first to know." The clerk picked up a cardboard sign A. had carried from his home and *sniffed* it. He then shook it as though to shake away any errant letters. Then he placed it into a gray steel box.

"I will need that for tonight," said A.

"No," said the clerk, "If you need something to enter the sausage-eating contest, it is most surely not that. We have never made a sign like that."

A whirring noise came from within the box. The clerk picked it up very suddenly and shoved it into the desk drawer.

"I am afraid you'll have to leave now. I can be of no help to you."

A. waited for a moment, but the clerk seemed no longer to see him. Perhaps there was another way to find the contest; perhaps this was the wrong address. With this happy thought A. returned to the gray streets.

Lovecraft

The outside streets had undergone a malevolent change. The quiet architecture had awakened into a festering mass of obscene angles. The shuffling batrachian inhabitants seemed to be sharing a terrible secret. Perhaps the whole city itself was alive pulsing with eldritch energies from unseen dimensions such as the elder cities hinted at in the terrible tomes Uncle Erik kept in his gable in witch-haunted Arkham with its clustering gambrel roofs. Could

a man see such a living city and not go mad?

Uncle Erik had seen things no sane man on a sane earth could have seen. Perhaps Alfred tainted by that sorcerous legacy would also end his days writing, "I see it coming... the three-lobed burning eye... the rhinestone-covered jumpsuit... *Yog Sogoth neblod zin... v'kanyee roghsz...*"

Molly Bloom

yes it was him after his first pie-eating contest and he kissed me yes and I could yes taste the blueberry filling from his winning pie and I thought why not him as well him as any other with his crumbs in his beard and his great bear arms and his eating trophies and yes his Elvis records yes and then I asked him with my eyes to ask again yes and then he asked me would I move in at the trailerpark and yes to say yes and drew him down to me with pie crumbs tickling my breasts and his heart beating like a hailstorm and yes I said yes I will Yes.

Narcissus

Alfred saw his reflection in the cab's rear mirror. The cab (at the corner of Donacon and Richer) was taking Alfred back to the Motel Six, after Alfred had gone to the wrong address seeking the barbecue sausage-eating contest. Alfred saw the perfect babyfat roundness of his face reflected in the mirrorwater. He fell in love with the memory of his dead twin sister Alfreda. Heart and cock stirred but mind and outerworld were mirrorsilent mirrorstill. All love and promises of love were in that smiling breast, that moonface. Round and white and perfect like milk and semen...it must be the source of all true food. To suck and he sucked. He reached forth his hand, but met only the hard shiny surface. His soul passed within and drowned in the mirrored depths.

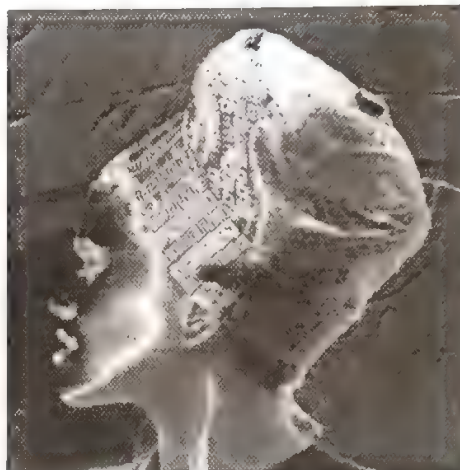
Ovid's Exercise Book

After Alfreda died and her husband Max ran off to Mexico, Alfred's mom converted him into a radio. She was much handier with electronics than most women in her neighborhood, but she had to be. Putting the tubes in was fairly easy—the speaker was a bit harder. Thank god for the old man's *Popular Electronics*. Most of her visitors wouldn't look too closely at the radio—in the



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'50s it was still taboo to cross the line between appliance and child. Not a single soul complimented her on it.

Good thing she didn't tell the neighbors that she made the German shepherd into a vibrator.

When she moved to Las Vegas she shipped the radio to Alfred's paternal grandmother. The old lady reconverted, but it didn't turn out quite right. He always felt hollow—felt a vast void within waiting to be filled.

P(oetry)

Of limbs enormous, but withal unsound,
Soft-swollen, and pale, here lay the Hydropsy:
Unwieldy man! with belly monstrous round,
For ever fed with watery supply;
For still he drank, and yet still was dry.
...from *The Castle of Indolence* (1748), by
James Thompson

Q(quick Step)

1. At the Motel Six, Alfred finds the correct address.
2. He wolfs down two Belt Busters at the Dairy Queen.
3. He watches Julia Child on TV.
4. He takes a cab to the contest.
5. He pays the fee and spots Zelda Hughes, his archrival on the eating circuit.
6. Everyone weighs in.
7. With a fanfare, platters of assorted barbecue sausages are brought to the contestants' long table.

R(esearch)

Sausages (from the Latin *salsus*) in America may contain up to 3.5% non-meat additives including soy flour, vegetable starch, and cereal. Spices used in sausage-making include coriander, nutmeg, cloves, garlic, chili powder, and even pistachio nuts. Casings may be intestines, paraffin-treated fabrics, plastic, or reconstituted collagen. Many are named for the place where first they were made—such as *bologna* and the *frankfurter*. Amerindians made a berry and buffalo sausage called *pemmican*.

Groups which backed up Elvis include the *Carole Lombard Quartet* and the *Jordanaires*. Saxophonists who worked with Elvis include Boots Randolph and Neal Matthews. Organists who have worked with Elvis include Henry Slaughter and Glen Spreen.

S(uspection)

As his teeth tore into the succulent spiced meat, Alfred B. Comstock knew fear

and suspicion. Everything was riding on this. It was his first pro contest. He not only longed for the thousand bucks—he wanted, no he *needed*, the title. He had to show Molly he could pull it off. He had to do it to show his mother.

If he got his name in the paper maybe his Dad would read about it in Mexico. He remembered the long search for Dad that had led him to don Juan. Damn he wasn't being focused!

How could he focus? Didn't one of the judges wink at the Japanese guy? What about the guy in the expandable tuxedo? With his kind of money—he could grease a few palms. Was he getting as much sausage? What if that shifty-eyed waiter was bringing him lightweight sausage?

He worried. He ate faster. He worried. He ate faster.

Were the scales working right? If only Molly had come along—she could be in the hall watching the scales. All the others—even the gay guy—had their spouses with them. What was she doing back home? Who was visiting their double-wide trailer? It was probably that mechanic Al Boylan. The mechanic really set her pants on fire. He'd seen her watching him with hungry eyes. Why couldn't she look at him with those eyes?

But most troubling of all was Zelda. Zelda wasn't tearing into the mountains of meat. She never asked for extra sauce. She'd only drunk one tumbler of iced tea. She kept going to the bathroom. She must have made at least three trips. What was she up to? It was her first contest—maybe—just *Oh god please* maybe—she was barfing it up in the john. Hell she might even weigh *less*. Then the joke would be on her.

But there are still the others with their secret grins and furtive winks.

He worried and he ate.

T(wain)

The bell rang and the contestants chewed and swallowed what was in their mouths. This being the one night of the year that the judges were worthy of journalistic attention, the judges took their time in speech-making and other stately manners. At last, at very long last, the scales were rolled in. The first on the scales was the failed *sumo* wrestler who to his dismay and the obvious amusement of the onlookers had increased his body weight by a mere 14 pounds.

The grave Oriental exited amidst the gaiety that inevitably follows when an American makes good or at least a foreigner fails. In such a case, one can drink a slug from the bottle of pride even if one had no right to the bottle opener. It was generally agreed that Americans had cornered the world in gluttony. It was later discovered that the ex-wrestler had committed *seppuku* in the parking lot, and this served to dampen the festivities, but we are far away from that unhappy ending and our story is unfolding apace.

The next four Americans braved the scales hoping that Dame Gravity would particularly favor them. They had gained (from the least to the greatest) 20 lbs., 21 lbs., 22 lbs., and a whopping 31 lbs.

Then Alfred B. Comstock, whose great midsection ached as though a group of amateur soldiers and mad historians were re-creating the Battle of Bull Run within it, took the scales. The judges gasped and photographers flashed at the results. He had gained 36 lbs.

Alfred had no fear of failure at this point. He had already begun his ponderous waddle toward the brass globe awarded the greatest glutton, when Zelda Hughes took the stand.

Suddenly all was quiet.

The judge his voice touched by disbelief revealed that Zelda weighed 42 lbs more than she had at weigh-in. Then there were screams and cheers as the champions of the recent past were forgotten in the novelty of the moment.

Tears beginning to run down his round cheeks, Alfred decided to leave the hall. As first runner-up he would have to have his photo made standing next to Zelda in all her fatty glory. He knew it was the end. Molly would throw out all his trophies—all his pictures of Elvis.

He'd seen a 7-11 not far away. He'd waddle down to it—buy four or five fried cherry pies to salve his grief and get a cab to the motel.

When he stepped into the cool dark air it hit him like bacon on a hot griddle—she couldn't have eaten more. If he could act quickly, he could reveal the trickery involved. He turned and at top waddle charged into the hall. The judge was about to present her with her ill-gotten gains.

With quiet but ponderous steps he stepped up behind her. Bending as low

as he could, bringing his round head to the level of her purple polyester-covered fundament, he grabbed her ankles. With all the strength he could muster, he lifted her ankles effecting a general inversion of Zelda Hughes.

Her mouth flew open and in addition to the half-digested mass of sausage and cole slaw which everyone expected, came a steady black stream of iron shot. The greasy pellets, which she must have consumed during her trips to the restroom, began to roll about on the carpet, where ill-behaved children began to collect them as souvenirs.

U(nknown)

Whereas it is easy to see that Alfred, now correctly crowned as King Glutton, will be filled with godlike pride and overwhelming self-confidence; there are many things about Alfred left Unknown. The Unknown is a gift to the Reader, because it allows him or her the pleasure of imagination. As you drift off to sleep tonight create more of Alfred to satisfy your will. Like a god, enjoy your creation. Do you torment him? Bless him? Challenge him?

If you like, you might begin by answering these questions. What was Alfred's first sexual experience? What are his views on politics? What kind of music does he enjoy? How did he meet don Juan in Mexico? What is his attitude toward his mother?

V(erme)

On the cab ride back to the Motel Six, Alfred made a plan for a great dirigible. He would float above the cities of men stealing their caches of food at will. The dirigible would be powered by a matter/antimatter propulsion system along the lines of the device proposed by the physicist Robert Forward, in his book *Future Magic*. With essentially limitless range and power (not to mention weaponry), he would be a scourge to all the thin world's armies, navies, and air forces. Totally broken from society he would be as No One to them, living the perfected life of the masculine soul. He might gather a few like thinkers to while away the idle moments. They would have to understand him.

"I am not what you would call a civilized man. I have broken with the so-called civilized world, and I do not live by its laws. Please do not mention it in my presence again."

W(illiam Burroughs)

Alfred is an example of a totally despicable form of the human animal called the host. The only worse form of so-called human is the Agent, whose assholes hosts generally suck upon for their nourishment. Christ was the first of these assholes, "Greater is He who sent me." Whenever you find yourself around an Agent—and you can always spot them by the authority they invoke—run, don't walk, away. Better yet shoot the son-of-a-bitch. The Second Amendment may prove to be our greatest tool in eliminating this type of predator. You understand my ethics are purely biological.

The discarnate operators—or D.O.s as we call them in the business—were stranded in this cold and difficult part of creation by the Nova Junies. The Junies just didn't know life had evolved here



The D.O.s can't do shit without their hosts. Like viruses these degenerates are completely dependent. They work through addicts—booze, crack, power, religion, or in Mr. Comstock's case, food. They infect the host's brains with lines of word association. Ads, jingles, Elvis' tunes. Once there the host keeps reproducing his bad programming. It doesn't matter how many of the human animals are used by this process—in the algebra of need, there is always room for one more

These disembodied cock suckers have already sucked almost all the color out of the world. Fucking rime thruzes. It's time to melt the ice and set the world on fire.

Scramble their messages. Rewrite their billboards. Tear down the words

before you're caught in their rotting threads. Sew the politicians' mouths shut, bust the TVs, and smash the jerky school clocks. Arm yourself—I don't mean no shortarms—Arm yourself with ballot and bullet, sabotage and stage magic

Erase the assholes before they erase you.

X(enophanic)

Golias Goliard, a wandering poet also dwelling for the nonce at the Motel Six, saw Alfred B. Comstock carrying his trophy past the ice machine. When Golias found out the trophy was for *gluttony* he composed a quick acrostic

Seize the day
In every way
Now the death-era has ended!

Brighten your life
O so boldly with vice,
Loudly trumpeting your triumphs!
Day of the fatman has come at last;
Loud farts scare away men of moldy
minds, and

Yellow moralists hide and tremble!

This little ditty won him a place in *Who's Who in American Poets*, but now Golias keeps on the road, for Weight Watchers has placed a million dollar reward on his head.

Y(ellow Sign)

As Alfred climbed the stairs to his room he thought of only one thing. There was a single mystery by which he could undo the death of Alfreda. He'd often dreamt that this rune would show itself to him, by its mystery opene the way to the forbidden inner dreams we symbolize by the stories of hidden treasures. He knew the Sign waited for him now—the Sign made flesh. He would lose himself in the Sign and then becoming powerful through his powerlessness he would arise and re-create Alfreda from the element found within. He knew the Sign was waiting—her massive thighs open in lewd anticipation. He could already see her in his mind's eye—her flesh made yellow by the light of the sodium vapor lights that assured the safety of the Motel Six parking lot. She would be a huge letter Y with a dark Mystery at the juncture. He opened the door to find

Z(elda Hughes)

1/8

small livestock mgt for cybernauts

..by Erika Whiteway, outrider@well.com

I'm sure there are plenty of you who dream, as I do, of escaping the impending Urban Doom—buying an acre or two where property's cheap and people are scarce, connected to The Outside World via modem, and sustaining yourself on nature's bounty.

I don't live on acreage (yet), but on a 5000 square-foot lot in a semi-suburb, the greatest portion of which is taken up by buildings for my husband's machine shop/guitar-building studio, my office/art studio, and of course a house. But even with this small plot, I raise chickens, have had goats and a pig, and—until we had to remove the pond to make way for the shop/studios—geese and ducks. Though the world around me seems to be going to hell and I hear the sirens scream, I can escape to sanity in my own backyard—which is the place to start if you want to change the world. Most city codes allow hens, but they aren't very accommodating of roosters.

I think everyone ought to have a few chickens: They're easy to raise, provide eggs and meat, rid the garden of pests, aerate the soil, produce rich fertilizer (after composting), are kind companions, and they give me a tangible connection to life that I find reassuring. Once you have seen and tasted

your hens to lay where you want them to by placing an egg in designated straw-filled nests, otherwise they will lay all over the place, sometimes in far off and hidden places.

Roosts are like closet poles, about four or so feet off the ground. Chickens like to be up off the ground, and it protects them from marauding raccoons, skunks, and 'possums. Even if you've never seen these critters near your house before, get some chickens and they will come, attracted by the promise of food: chicken feed, eggs, or the chickens themselves. They like garbage too, and are often in need of water. In general, none of these animals will kill a chicken if they don't have to. I've seen raccoons reach under nesting hens in search of eggs, and I've also seen them eating side by side with my geese from the communal feed tub, which I've since learned to put away at night. Store your feed in garbage cans to protect it from mice and rats.

Free-range is the best possible way to raise chickens: the ingestion of living plant tissue and insects produces hardier stock, and tastier meat and eggs. But you need to supplement this diet with a commercial feed to ensure getting enough nutrients and maintain egg and meat production.

petite for the ones in the nest and I have never been able to stop a hen from eating eggs once she starts

If you want or need chicks, it is best to use an incubator rather than let the hen brood them herself. This keeps the hen laying and avoids their tendency to become "broody" or nestbound, i.e. staying on the nest, losing weight and getting mental. Chicks allowed to hatch in the nest will fall prey to predators once they're out and about with Mom. Incubators can be purchased or ordered at the feed store and aren't very complicated or expensive. The important thing is maintaining proper temperature and humidity levels. You also need to mark each egg with an X on one side, and turn them twice a day to keep the chicks from sticking. Instructions will come with your incubator. Once hatched, I keep my chicks in a big aluminum washtub with a clip-on light attached to it, and keep the tub in the kitchen; they need to be warm and dry, and have water and a special feed called *Starter Mash*.

As far as chicken breeds go, my favorite is the *Rhode Island Red*: good layers (brown eggs), good meat, and kind natures. I also like *Aracanas*, which lay colored eggs, have sweet dispositions, and will continue to lay in colder climates when other

once you have seen and tasted "real" eggs,
you will wonder how you ever ate
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from Safeway, or that
tainted, waxen yellow fowl
they call Chicken

"real" eggs, you will wonder how you ever ate those mucus-colored phlegm orbs from Safeway, or that tainted, waxen yellow fowl they call Chicken.

Hens lay, on average, one egg a day throughout the year, beginning at age three months, and lay for about two years. If you let your chickens roam (which you should) you'll need a rooster (just one) to ward off predators and supervise the hens. During moulting season (mid-to-late summer depending on your geographic location), when old feathers fall off and new ones grow in, roosters are less attentive, and breeding, which is continuous year-round, slows, as does egg production.

You will also need a coop, which is a simple structure whose primary purpose is to provide shelter (a place to roost), and nests. Encourage

Many commercial feeds contain hormones and antibiotics that can produce large mutant animals with weak bone structure. These hormone and antibiotic additives are also linked to human tolerance to antibiotics, hormonal irregularities, early onset of puberty, and other undesirable stuff. There are feeds available that have minimal amounts of crud in them (there will always be SOME level of pesticides), but are often hard to find. Ask your feed supplier and read labels.

Chickens also eat table scraps—meat included. They are natural garbage disposals. Feed them their own eggshells (after baking slightly in the oven) as a calcium/mineral boost, and leftover eggs too, as long as they're cooked—raw ones will give them an ap-

breeds' egg production falls off. I don't recommend *Bantys*—not to be confused with bantam, which is a mini-chicken—they fly (unlike other breeds) and frequently do so, are poor layers, and act like they're being tailed by the FBI.

I have gotten many chicks, goslings and ducklings by mail-order, delivered by a grinning mail carrier, from the *Sears Farm and Ranch Catalog*, and gotten just as many from the feed store, neighbors, various ads from papers and bulletin boards. The local Humane Society is also a good source.

Killing—or harvesting—chickens isn't easy to get used to. Eventually, however, you're going to come to the point where you have old hens around who no longer lay eggs. Hens can live a long time, and it's simply a waste of resources to have a lot of

old pet hens around. My advice to the squeamish and sentimental (unless you're vegetarian) is: *Get Over It*. I did—after my band played at a fraternity hoe-down-hay-bale party, and one of the chickens (party props) I took home got killed by a cymbal that rolled onto its neck by accident. *C'est la vie, c'est la mort*.

The quickest and most efficient is to wrap the bird in a towel or your Levi jacket, hold it down and insert a knife posteriorly under the "jaw" and up into the back of the brain, giving the knife a little twist. This cuts the brain stem and causes the muscles that hold the feathers to relax, making plucking easier. Or use a hand axe and cut off the head (very efficient). I do not recommend neck-wringing, which is a real ordeal.

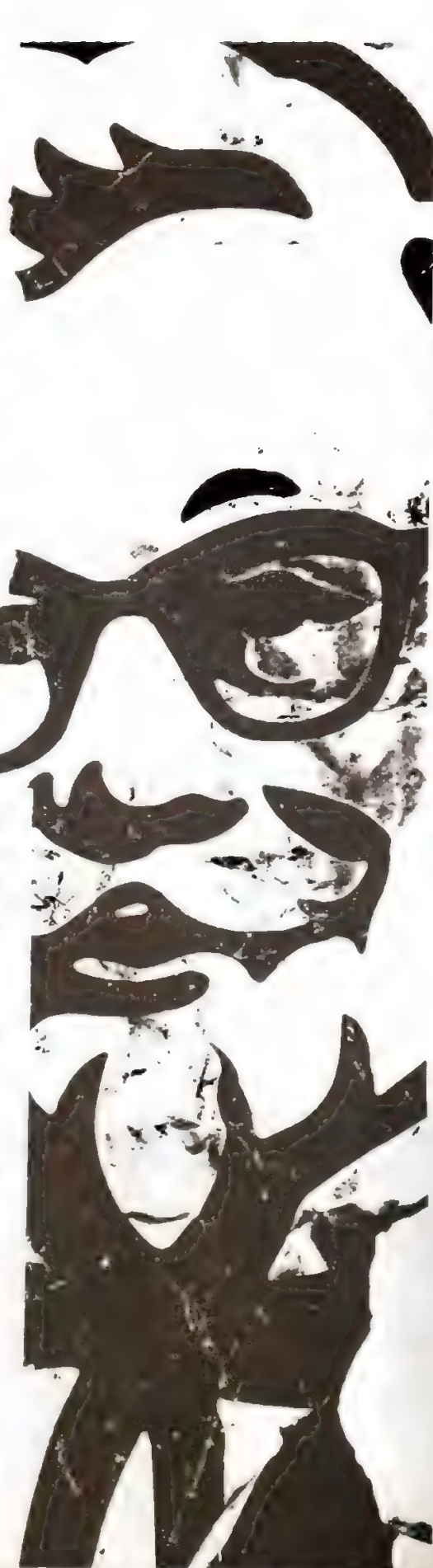
Now you're ready to pluck.

Hang the bird by the neck between two poles (like a clothes-line-type thing) or simply hold the bird on a table. Yank the feathers in their direction of growth. It's a tedious job. The more you do it, the easier it gets. Any residual pin-feathers can be burned off with a small propane torch.

Remove the internal organs ASAP. Turn the bird on its back and slit it open from the cloaca—or poop chute—up to the breast bone and scoop the innards out with your hand. If you want, save the heart and liver; the rest can be fed to your chickens or cats, but never NEVER feed raw fowl or eggs to dogs... Once dogs develop a taste for raw chicken, they will usually start killing them and it's nearly impossible to break them of it, although I've succeeded once, but it's easier to prevent than stop.

Since I'm a lousy gardener, I barter my chicken by-products with my vegetable-growing neighbor: she gets eggs and fertilizer, I get seasonal vegetables. When and if the great Urban Demise occurs, we at least feel capable of sustaining ourselves.

As a final note, raising chickens makes me feel capable and relatively calm in the present, and gives me a feeling of security that extends to the future. I recommend further reading. Most feed stores have books, and most feed store proprietors are more than happy to share their knowledge or refer you to people who can help you. Perhaps the Internet could yield some helpful suggestions—and since the whole idea here is to incorporate technology with Life As We Have Always Known it, start where you are with what you have: *chicken.net* or a Chicken conference on your local BBS may make an appearance... 1/8'





the glory & cost of reinventing junk

by Gollum Isaac Rossum, grossum@metropolis.matrix

So far as spoken utterance was concerned, I had previously felt assured in my convictions that language could describe nearly any Earthly creation. Perhaps not the mythical nirvana as spoken of by the ancients, nor holy union with the Godhead, but those august situations never arise for one such as me and may well lie beyond the ken of all humankind. About common, material objects, however, I felt confident and secure.

Yet there at Robofest III in Austin, Texas, Spring 1992... I spent a long, disturbing interim staring pensively at a four-panel apparatus of unknown derivation, drawn alongside many other forthright and undoubting spectators into the display of oddly disordered machinery. We puzzled over what was portrayed innocently as an art exhibition titled "The Great Wall of Gizmos by Brooks Coleman." There were several conceivable explanations, and we did a good deal of indecisive whispering. But I felt a strangling disability to describe this abhorrent contraption within its own presence, a dire feeling perhaps shared by my hapless neighbors.

Each may have harbored wild guesses which snay forbade us to formulate completely. The whole general formation, it must be made clear, seemed abominably suggestive of junk. Now I am forced into speech, compelled to report to the outside world about these and other equally strange delvings of the man known as Brooks Coleman, Austin's shaman of Junk Art. Fate exhorts me, unthinking of my potential madness, pain or terror, to confront that nemesis foreshadowed in the halls of Robofest III.

The Great Wall of Gizmos, broadly speaking, is a wide range of refuse, scrap and electronic salvage into an effort at unimaginable adaptation, producing what specialists in the field might term as "a Fullerian synergetic array of noisy interacting contraptions." Several unusually puzzling and provocative three-liter Coke bottles and a pump connected with plastic piping, and water flowing among them—as one bottle filled, engorged fluid weight would tip it over, spilling its watery seed down a earnest pipe to the next bottle in endless cycles of unwholesome ritual! Then, too, there were the bulbs, the wheels, and the jarringly comical heap of motors in the most unlikely ways and at the most unlikely places, set up to emote a preternatural performance of thrill whining, savage clicks and sharp echoing barks.

I could not help noticing the resemblance of a phonographic device, playing an aged vinyl LP with an almost fearsome combination of triumph and senousness. A curiously marked flat surface

prised of a dozen quarter-inch-diameter springs stapled radially from spin-hole to disc-edge revolved in an unceasing loop. As the tonearm would pass achingly over these springs, ghastly cries burst forth from a nearby speaker, those rhythms and incantations thundering unintelligible alien phrases...*crnnnk...skashassssh...*

Frequently, I noted peculiar things about how the phonograph, along with an electric can-opener, a Black & Decker drill and a motorized bicycle wheel, would all cycle at curiously semi-random intervals, controlled by the machinations of an antique mixing board which, according to nervously whispered rumors, Brooks had fished out of a recording studio's dumpster. Naked circuitry of mysterious purpose jutted out the mixer's back. One observed helplessly as unnameable things turned on and off, listening to pernicious clamor as if strapped into a demon robotic dentist's chair, imprisoned within an amplified boiler room tomb.

Sensory overload, or perhaps exustential incredulity that my retinas actually dared process photons reflected from this hideous creation, overpowered my moral will until I hunkered, cowed in the un-

felt most torn over whether to lie about it ("Uhh, we-ee-ell, I, uh, fou-ound it") or, I pensh the thought, extract your brain too, arranging both into some latest rattletrap apparatus of inequity.

This man Brooks Coleman personifies true fringe. He has gazed into the Void—as close to the Void as Austin gets, at least—and it has changed his being. Looking at him, you half wonder why he hasn't fallen over in the wind and half hope, begging providence, that he won't turn surly in your presence.

Master of Junk

On the other hand, one might easily assume Brooks Coleman *never* gets mad. His life, on the face of it, mimes a cultural mythos: *Hope for leaving the rat race*. Finding true satisfaction following one's bliss. Brooks had a college degree and business skills (he used to refinish furniture) to succeed in what most people call Real Life™. But he never took to the compliant conformity required for suburban success.

Brooks had bailed out long before I met him. That was three years ago, when he was deeply into

a weaker spirit might have given up
the calling, bought a white shirt
and power tie, started mailing
out resumes, but Brooks instead
adapted to become more
"Brooks-like"

godly nightmare throne which curiously resembled an upholstered Virgil Reality hair-dryer seat.

Odd enough things, to be sure, but the man himself emanates an unsettling spirit of utter chaos. Tall, a bit stooped, emaciated pipe-cleaner build draped in a squalid XXL T-shirt and torn jeans not even found on the poor, detoured souls who "WILL WORK FOR FOOD", nails sometimes painted with curious markings composed of stripes, flames or flowers, thin red-brown hair, sometimes a beard; a stork-like head, often drooping, with pretenses of shy upward glances and a constant grin during speech; a tremulous, musical drawl which at times hits three tones in a one-syllable word. Evidences of nervous countenance, often acting as if you'd caught him with a freshly extracted brain and he

arms... Not munitions nor cadavers, but robotic manipulators. His first effort loomed over 4 meters tall, moved with seven degrees of freedom, could lift 10 kg, and worked as well as the multi-mega-buck arm NASA built for their space shuttle. Built entirely from scrap aluminum tubing, garage-door openers, chains from a broken photocopier and hand-tooled gears. Total cost: zip.

Then there's his mechanical centipede: a loud, rattling, chattering, jaw-gnashing. Get outta the way here it COMES! monstrosity. Apparently the first robot to travel by side-winding like a snake, some of its legs sort of, well, fell off, so Brooks named it the Mechanical Pit Bull. With clanking, rusting pneumatic jaws, it looks plenty dangerous.

Given these and other twisted creations—the giant sheet-metal hand, the *Popcorn Tomado*, and let us not forget the *Great Wall*—I thought Brooks above quotidian concerns. He is, after all, an artist, working in a neglected but estimable tradition. Think of Sabatano Rodia, who transformed steel rods, concrete and scraps into the *Watts Towers*. Or Seiko Mikami, who incorporates circuit boards and similar paraphernalia into her weird, pricey gallery sculptures, pictured in big art books like *Exhibit in the Superclean Room*. Junk Art even has its kitschy side: Larry Fuente of Mendocino, California, covers junk-shop mannequins with salvaged beads, costume jewelry, antlers and Gurkha knives, selling these gaudy things for thousands of bucks.

Like these other creators, Brooks finds "stuff" in alleyways and through mutant mechanical intuition makes it become impressive. Better yet, his creations actually derive from science, from knowledge, not from a devouring parasitic fashion sense. In an early novella, *The Winter Market*, William Gibson coined a Japanese term: *gomi no sensei*, master of junk. Brooks Coleman reigns as America's fringe *gomi no sensei*.

Behind the Master's Mask

America caught a glimpse of its new junk master. They locked eyes, then turned without speaking... Photographs in *Newsweek* alongside peers from the Robot Group, an eclectic band of guerrilla technologists and artists scattered about Austin. Articles in *Mondo 2000* together with other members from an avant-garde performance-art band called Liquid Mice.

But conventional America exists only in a dream, one in which Brooks never took much interest. One which has not yet shown interest in him, since publicity hasn't translated to a viable means of support.

Robofest IV, the Robot Group's most recent annual showcase of technological art... My unrealistic image of Brooks as a "detached artist" died in a torrid convulsion of mistakes and misinterpretations. Driven by strikingly ordinary pressures of bills and back rent, Brooks hoped to auction his creations. Hocked to hundreds of unwitting attendees. The crowd, abrupt, in the middle of a Liquid Mice performance, ignored his plaintive supplications.

Everything went wrong. Someone had mistakenly hooked *Pit Bull* to a high-pressure airhose, blowing its lifeblood out in hypertensed spasm. Burst toxic force through broken gaskets. Meanwhile, Liquid Mice performed in the main auditorium, looking so weird that no one considered their *gomi no sensei's* auction seriously. They laughed at Brooks' supposed comedy.

I'd been occupied elsewhere. Hadn't heard word of the crisis... In an empty hallway outside the auditorium, there crouched the most wretched, abysmally depressed human being I'd ever seen.

"What's the matter, Brooks?" He looked as if I'd just called during a bad life. Wanted to know if I could reach him later, sometime after his next incarnation.

"It's all—forget it, I was stupid. *Pit Bull* is gone, it's all a big jo-o-o-oke..."

This work, derived from junk, that which made junk anew in his own image... He seemed to think it had now returned to utter junk. Perhaps it had always been junk and would ultimately be no more.

Screening details (Freq (lines/inch), Angle, Filter) = 60 0; 45 0; normal, /

Hacking up Keyboards

..by Doug Faxon,
75720.3413@CompuServe.com

Go to any computer swap meet and you're sure to find any number of cheaply made Malaysian or Taiwanese keyboards selling for about \$19.00. These keyboards can become handy little items for experimenters in "alternative" interface devices. There is some work involved, but the rewards can be many, once the initial work is done. Go buy yourself an extra keyboard.

When you've laid out the bucks (don't spend too much, and don't get a click keyboard—the cheaper the better, as long as it works), take your keyboard apart. If you got the really cheap kind, you'll find that the switching is done by pushing together two traces printed on Mylar sheets, the ends of which are sticking into a two connectors on a small circuit board. This circuit board is your ticket to creative interfacing.

The connectors should be different sizes. The one connecting to the upper Mylar switch sheet has 8 connections, and the one for the lower sheet has 16, 3 of which are shorted together. If you multiply 13x8, you get 104, just 3 more than the necessary combinations to provide for the 101 keys of an AT keyboard. These different combinations

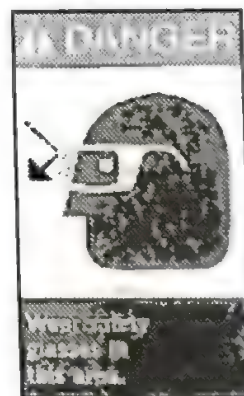
need to be isolated in order to do anything cool with your disembodied keyboard.

To do this, you may want to use colored felt tip pens (like *Sharpies*) and an ohmmeter with a beeper to indicate continuity. You can also use any continuity gizmo with a probe tip and a light bulb.

a connection between pin 1 on the upper sheet (small connector) and pin 9 on the lower sheet (large connector). To get a useful project out of this mess, it will be necessary to trace out each key combination for all 101 keys. This took me a couple of hours,



Hell, a modified flashlight will do. You want to come up with a numbering system for your connectors that allows you to give a two-value numerical combination for every key you press. For instance, when you press the ESC key, you might be making



but when I was finished, I had 3 pages filled in my notebook with everything I needed.

Once you have this figured out, you might want to build an interface box for your circuit board. I built mine into an aluminum case with a



Fellow Mice member Sheelah Murthy arrived to console. Gradually drawing Brooks back, onto the sepulchral stage. "Come rejoin the band—our last set..." I heard someone say.

I watched them from a distance. Peering from the back of a good crowd. Brooks gripped an undetermined transducer, forcing its kiss upon a spinning bicycle wheel. The stage answered in seething cry with vast Monstro wails resounding deeply from subwoofers. Playing the wheel with a resigned frown. Detached from humanity, while everyone else watched. Voyeurs to his pain and resolution, a master's mask stripped and cast aside. They gawked in giddy wonder.

New Junk Horizons

Though hypertension had temporarily blown critical gaskets, Brooks recovered. He changed his life to an extent... A weaker spirit might have given up the calling, bought a white shirt and power tie, started mailing out resumes, but Brooks instead adapted to become more "Brooks-like".

By now he's practically broken from the Robot Group, departing Austin to occupy a patch of scrubland about an hour's drive southwest of town. He's

building a house out there, described as "eight by eight and two stories tall." In a detached shed he tinkers with new creations.

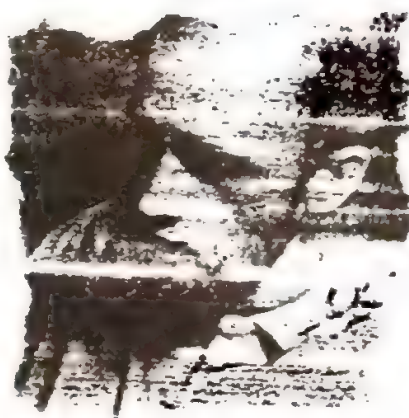
I doubt Brooks himself could explain what forces wrenched him out of his funk and back into the workshop. After considerable thought I find the nature of his motivation indescribable—again, much like *nirvana* or union with the Godhead or the Great Wall of Gizmos. So far out of kilter from the rest of the world, Brooks has apparently decided to readjust the world rather than himself. If he can pull the world's junk into his vision, perhaps the rest of us will be drawn to follow. 1/6

The Robot Group

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+1 512 462 3887

robot-group@cs.utexas.edu



DPDT switch for switching between my regular keyboard and an external controller device, an extra jack for plugging my other keyboard in (kind of like a "thru" when the switch is in the proper position), and a DB25 connector, for connecting my alternative interface up to the circuit. The cable

the connectors were on the hacked circuit board (came up with my own configuration there, too)

Now, you want to control your software from an external device? Just provide the necessary contacts with some sort of switching arrangement and you can simulate keypresses as if you were run-



that came with my hacked keyboard comes out of the unit and plugs into the computer's keyboard connector, while my keyboard plugs into the switched jack in the box (no hamburger jokes here). I took wires from the DB25 and soldered them in where



ning it from your keyboard. If you run any kind of TSR that can put macros under keys, you're home free. Get creative! Proximity switches, infrared alarm sensors, magnetic reed switches... There's lots of possibilities for computer control using something other than your fingertips! 1/6





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Telluride Ideas Festival & InfoZone

by Eric S. Theise, verve@well.com

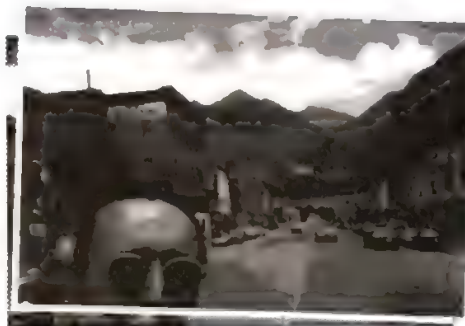
When it finally dawned on him that six months of telecommunications could influence people's lives more than a dozen years of operations research, Eric resigned from professorship and set out on a digital nomad's path. Recently spotted in Taos and Austin, he makes his home in San Francisco, where he administers an Internet machine or two, hosts and gophermasters for The WELL, edits the network domain of the forthcoming *Millennium Whole Earth Catalog*, and produces the "Jacked In/Cyberspace Literacy" series at Modern Times Bookstore—eds.

"I haven't got a clue that I'm not twenty-five anymore, and I've got several that I am." It's Friday morning, and Doug Carmichael and I are getting acquainted over bowls of coffee. We've been brushing past each other in cyberspace for a few years, and from his online demeanor I would never have pegged him as having white hair. But Doug, like most of the social hackers drifting into Telluride today, talks and types from an ageless gleam in his eyes.

Ideas Festival It's drawing the social hackers here to brainstorm about Tele/Comm/Unity and, if the Telluride Institute has its way, some of them will stay, to live, work, and attract

Friday Afternoon

The basement of the Shendan Opera House is humming with monitors, Centri, modems, phone lines

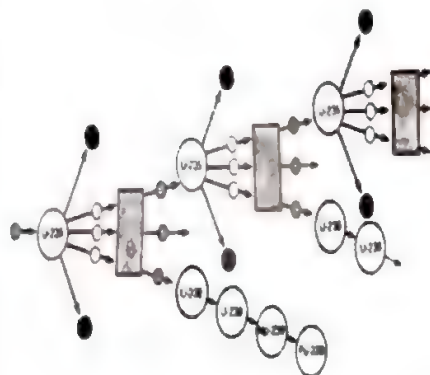


(too many/not enough) and a lone Minitel terminal. Mission Control will house ongoing demos of MUDs and MUSEs, Internet Relay Chat, The WELL, Community Memory, and a temporary franchise of the Electronic Cafe. Cable-stringers (Gene Cooper, Brett Dutton) greet the altitude-queasy newcomers, and the non-electronic hum turns to all of the TBAs still on the agenda. I walk two blocks to the Elementary School and meet with Bell Labs expatriate Madeline Gonzalez and text artist Judy Malloy to set up and maintain the portfolio of network channels that will

It's a successful installation, but like most openings, socializing trumps viewing. Among the online cohorts I meet is Jacques Leslie, who's written a piece for *Wired* about K-12 networks. I'm building one. We compare notes. Mark Graham, pale from an exhausting week in Moscow advising scientists about fiber networks, rounds up a group for dinner. I'm bringing up the rear as we search for the restaurant and, as we pass an innocuous doorway on Main Street, Brett shunts me up the stairs and into an astonishing loft space. If it weren't for the views, I'd swear I was in Manhattan.

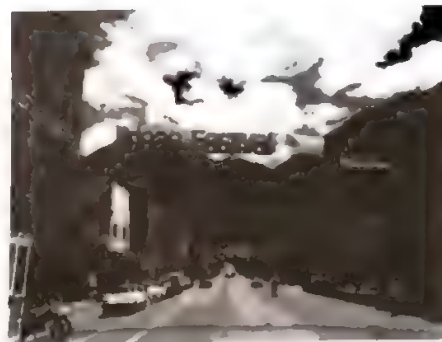
John Lifton and Pamela Zoline live here. Like Lowenberg, their contributions to the Institute include a finely-honed design sense. Introductions and the local wine flow, the gathered partiers tear through the final version of the Festival program when the printer delivers it, and at 8 pm we drift across the street for the kickoff.

Nearly 150 of us have registered, and we're greeted with the wordless clarity of a Tibetan chime



The Steaming Bean fronts what everyone except the map calls Main Street. Main Street glides into town from the west, expands into the central commercial artery, then winds up towards the waterfall that forms the east boundary of town. A quick scan in any direction confirms what the 1300 people who've settled here—or built a vacation home here—are acutely aware of. Telluride, bounded on three sides by mountain slopes, is land-locked. Finite. Much of the growth here is absorbed by satellite developments up and over the ridge, at Mountain Village and the proposed Skyfield.

There's another kind of development playing out here, a kind of digital, unbounded Main Street. With roots in technology—BBSs and free-nets, cable television and cellular telephony—and utopian threads from architecture and urban planning, the Telluride InfoZone is at the heart of this year's



allow outsiders to participate. At 5 pm we head over to check out Program Director Richard Lowenberg's gallery opening.

Lowenberg's photographs and video piece deals with surveillance and covert information collection

someone's thrust an envelope through the window into my hand...a none-too-subtle videographer is trying to muscle his way through the side door of the van...John punches the accelerator and we leave him curbside

Pamela and John stress their ambition of empowering small, rural communities to take their place in the global information society. Megarender and resident John Naisbitt notes the central paradoxes of his forthcoming book: as the world economy grows, smaller economies 1) acquire more power and 2) behave more tribally. Carey Davis, Institute Director, describes their other initiatives—the Deep West Arts Circuit, Composer to Composer Festival, Native American Writers Forum, and collaborative environmental program. Lowenberg talks about the InfoZone's evolution, and warns that its vaporware status is threatened by newfound attention, hardware, and connectivity.

And then Doug Carmichael steps up to the microphone and works some serious magic on all those TBAs.

He likens the microphone to an Indian speaking stick, conferring the responsibility to speak from the heart on its holder and the equivalent listening responsibility on all others. He tells us that we who have come are the right people, and that we know what needs to be said and done. Anyone wishing to convene a session must write a short description on a poster, take the microphone, introduce themselves and their session, and tape their poster to the wall. When all have had the chance to speak, we will sign our names to the sessions in which we're interested.

An hour later we have a full and aptly named Ideas Festival.

We filter downstairs for the Electronic Cafe's videotape teaser. Some check their email, others head out for a nightcap. Some lunatics stare at the insanely starry sky.

Saturday Morning

Distinct weirdness walking through the maze of vehicles lining the center of Main Street for the Superwinch Rotary Club 4x4 Tour. Breakout sessions include: "Internet values and the future of network services"; "Electronic publishing and rural communities"; "Using existing resources to build tele-community"; and "Education and telecom in today's systems of learning".

Howard Rheingold and I offer "How we treat one another in the online world" which fleshes out the range of cyber-climates from MetaNet's safe haven to USENET-style shake 'n bake. Our group stresses the importance of exemplary behavior by hosts, moderators, and other elders, and contrasts solutions like bozofilters and killfiles, censorship and banishment. Making new users comfortable in their navigation and communication is the central theme.

We all come back together for the "Economic and policy issues" panel. This is clear: US West's relationship with its rural customers is rocky. They've put dozens of rural exchanges on the selling block, feeding fears that service will deteriorate and long-promised upgrades will never materialize. They're accused of abandoning their backyard for lucrative ventures with Time Warner and Eastern Europe. They counter with calls for cost-based pricing to offset their competitive disadvantage against smaller, niche providers. Everyone seems well-informed and comfortable slinging jargon like *intra-LATA*. Note to city dwellers: we have it easy.

Richard Civile (Center for Civic Networking) suggests that strong local models for community nets could easily become federal policy, and Bill Washburn (Commercial Internet Exchange) cautions that coupling fast-moving technology with slow-

moving government could result in the US becoming a follower as it has in quality-assured manufacturing. "Marketplace of Ideas" is the novel lunchtime strategy where each panelist holds court at a different restaurant. This works well, except that some restaurants aren't prepared for the onslaught of Powerbooked Ideators. (Telluride is the only place on the planet where I've been early to everything.) Washburn, his son, and I talk about foreign innovation on the nets, then are joined by Lowenberg and Gene Youngblood and the conversation turns to media and politics.

Afternoon breakouts include: "Running global village business from remote locations"; "Providing electronic access to government"; "International boundaries being changed with Internet"; and "Developing a telecom resource center".

I choose "Cultural preservation and online systems" convened by Randy Ross (American Indian Telecom), Steve Cisler (Apple Library) and Dave Hughes ("having him around is one reason why Colorado SuperNet doesn't need a big marketing staff"). I'm intrigued by Cisler's "or why you might want to stay off the global Internet", but that angle never crystallizes. Instead, he demos some impressive multimedia projects dealing with oral and architectural histories. Hughes updates the saga of NAPLPS-based *share-art* and the *Troika* drawing/multifont/telecom package, and Ross talks about



..by Cliff Figallo, fig@well.com

The title alone of Howard Rheingold's impressive new book can bend your mind if you think about it. "Virtual"—supposedly an adjective but more like a state of being...or not being. There and not there.

And "community"—a noun, but a very active noun, describing a state of relationship with people so personal that it's best defined not by other words, but by the feeling that you're part of one. Thus presented with two elusive and restless concepts that seem able to modify each other, it doesn't help that Rheingold begins his title with "the"; a tiny, common but complex gamish when served with those two deep entrees. The book manages to explain the title eloquently.

The idea of humans interrelating as communities while temporally out of synch and set at long distance from each other is a bit hard to grasp if your idea of community requires backyard barbecues, town meetings at the school gym and local balloon-bedecked fund-raisers. From that angle, a non-face-to-face community would seem to lack the barest essentials of physical presence. Yet the existence of genuine community across (*within?* *through?*) the rapidly-expanding web of phone wires and digital technology is undeniable to those of us who spend significant parts of our lives there.

Howard Rheingold has been experiencing it, participating fully in it, for over a decade and he's come to tell the people about it. We, the members of "the" community of which he writes, are fortunate to have such an eloquent collective biographer and historian speaking as an advocate for the legitimacy of human relationship priorities in the Information Revolution.

What you get in Rheingold's book is an amazingly well-integrated overview of the field of human online interaction including its history, its diverse applications, its heroes, its potential, its dangers and a slice of life from one person's personal experience of it. By the time you reach the summation in the final chapters, you are well-prepared to confront the grim omens that now face the committed virtual communitarian—the uncertain "progress" of commercialization and government involvement, the double-edged swords of privacy and encryption issues, the social downsides of technology in general and electronic communications in particular.

At the same time, you are inspired by the possibilities that the medium offers today and in the future to educate ourselves and our children, to collaborate with our global village neighbors to help solve the world's problems, to regain that

sense of community that seems to have escaped us over decades of increasing personal segregation.

Although there certainly exist countless separate and overlapping communities within the electronically-networked world, *The Virtual Community* calls on us to recognize the greater social web that encompasses all of our communities of special and local interest. It demonstrates to us the undeniable commonalities of interlinked humans moving rapidly toward a state of global interconnection. Howard Rheingold tells of a world with plenty of reason for hope, but approaching critical forks in a road where slippery slopes abound. It is time we heed his warnings and make use of his good navigational advice. 1/6

Text by Howard Rheingold
Addison-Wesley Publishing,
\$22.95 hardcover, 288 pp
ISBN 0-201-60870-7



Cliff Figallo works as a private consultant and was formerly Director of the Whole Earth Electronic Link, and of the Electronic Frontier Foundation's Cambridge office.



the National Museum of the American Indian. Subsequent discussion centers around outreach to under-represented communities and assuring online respect for multi-cultural practices.

As recorder, I take refuge at the Steaming Bean over a double mocha and my Dell. We're uploading the proceedings to The WELL where regulars and Telluride guests can continue the discussion. Regrettably, I miss most of "Social and cultural issues of tele-community" with Cisler, Hughes, Ross, Youngblood, Anne Branscomb and Howard Rheingold.

For dinner, there's a party at Arizona State University's Deep Creek School a few miles west of town. Dan Collins gives a tour of the tents and cabins, the studio they've barn-raised, and the sculptural installations that line the banks of the cold, noisy creek. Over barbecued chicken, killer gumbo and Miller Drafts, Richard Loveless tells me about the doings at ASU's Institute for Studies in the Arts, which he heads. The ghosts of Bucky Fuller, John Cage and Charlotte Moorman frolic in the campfire smoke.

The Electronic Cafe is one of the Festival highlights I'm most curious about. Kit Galloway and Shermie Rabinowitz have been hooking groups of people together for over a decade but video-enhanced chat isn't my model of cyberspace, and I have my doubts. But as Saturday night wears on, and we connect to the Marin Headlands Art Center and Biosphere II, then later Europe and their Santa Monica "homecafe", I'm awestruck by the goodwill that comes through the metronomic pulse of that slow-scan video frame, even though people weren't doing anything but schmoozing, singing for each other and clowning around.

Shermie and Kit have mastered the deceptively simple patter it takes to draw people into this odd collaborative form. Kit's grace with the handheld, clumsily-cabled, monitor/camera combo, casually sweeping it through 3-space to capture just the right frame to whisk off to a remote site, bears the mark of high artistry. I got it.

"Have you given much thought to what the community's reaction is going to be when they realize that all that information for K-12 students and queer activists is interleaved on the same hard drive?" I lean back and sip my Newcastle. Patrick Finn lets a lungful of cigarette smoke out of the side of his winning smile. Closing time, Sheridan Hotel bar Patrick's one of three Taos wildcards that have materialized in search of Ideas. Richard Bryant is pragmatic. Spiro Antonopoulos is nose-ringed and happy sleeping in the antique tramway car on Main Street. Patrick can't sleep, his mind is reeling though he's never used a modem before. He'd have had nothing to connect to if he'd tried.

I'd confidently stepped up to the Zenith, cracked my knuckles, and systematically struck out. Taos, arts Mecca of the Southwest, has no public Internet or UUCP site, no in-dial for CompuServe or Sprint-Net, no FidoNet node; nothing. It's cheaper to call

out of state than to Santa Fe. The La Plaza Foundation is hellbent on changing their telecom landscape. For the Anglos, Latinos and Indians.

I take Patrick for an all-night net surfer, slithering through gopherspace, tapping into the mishmash of minds that is USENET, snagging GIF files from online art galleries. I get home just before sunrise, and sleep through the Sunday morning breakout sessions.

The morning panel features Carmichael, Cisler, Matisse Enzer (The WELL), Lee Felsenstein (Community Memory) and Mark Graham (Pandora Systems) running the gamut of hardware and software options needed for community connectivity and computer conferencing.

There's another Marketplace of Ideas, then the final round of breakouts: "Community networks getting started"; "Info Rich and Info Poor?"; "Privacy, Anonymity, and Authentication"; and "What roll [sic] should government play in information utilities?"

I imagine spin doctors heading in droves to that last one, but I choose "K-12 Education and the Internet", convened by Ken Klingenstein. We talk of several gopher-based systems coming online—Boulder Valley School District and Pacific Bell's Knowledge Network—and of the need to support teachers through release time and accreditation as they acquire network skills. I leave a believer; networks will have greater impact on K-12 education than they have had at the university level.

Sunday Mid-Afternoon

The final "Free Locals Session" features the major InfoZone players speaking about their relationship to the community and project. The Public Library and School System are represented. US West is there, as is Liberty Cellular. Each has a different take on why it's hard to serve such a mountainous region. We hear about Telluride Cablevision's limited two-way transmission capacity and learn that the entire Festival has been carried live on the public access channel (we thought it was being videotaped).

Madeline Gonzalez is the only panelist who doesn't—or can't—appeal to her roots here. She talks about being drawn to Telluride from a corporate/engineering environment in her search for something more natural in geography and purpose, and expresses her sadness at having to leave. She's frustrated working without pay since January, cooking on a wok in her hotel bathroom, working odd hours to stay out of people's way at the Institute. It's a surprising message to hear from the upbeat Opera House stage but personally, having witnessed the tendency of non-profit to burn out their best volunteers, I think it's a healthy one for the community to hear. It also opens a floodgate of questions from the floor.

There's been speculation all along about the extent of local awareness and support for the InfoZone, and this outburst of questions is exciting.

We outsiders sit back, listen and watch. A show of hands suggests that more than 90% of the 60+ people live here. More than 75% would dial into the InfoZone today if it were operative.

The emerging picture of the InfoZone goes something like this. The local portion will be a Macintosh-based BBS running First Class TCP/IP compatible software. Local services will be free; Internet access will carry a fee. Interim Internet access will be provided immediately through accounts on a Colorado SuperNet unix machine, accessible via four local dial-up numbers. The eight Centri donated through the Apple Library of Tomorrow grant will be distributed as public access terminals in Telluride and in outlying mining and farming towns. Modems donated by USRobotics are already in use. A RISC workstation donated by IBM will see service as a terminal server. The InfoZone will be positioned as a testbed for future video and cellular technologies.

The Gavel Comes Down

We're packed into John Lifton's minivan and there's too much going on. Someone's thrust an envelope through the window into my hand and, as I swivel to pass it back, it turns out that it's not for anyone present. Meanwhile, a none-too-subtle videographer is trying to muscle his way through the side door of the van. John punches the accelerator and we leave him curbside. Speechless, for once. Minutes later we're through the cattle guard and onto the mesa that will be Skyfield.

I drift away from the conversation, feeling the impending weather change in the air, wondering what the drop-off is really like there where the landscape swoops down and out of sight. As we double park across the street from the Opera House, a stranger appears to claim the mysterious envelope. I hand it over, dumbfounded, and head over to the Opera House for the Festival's closing reception.

There's a spirited breakfast on Monday morning, but what social hackers are left are making their way out of town, bumming rides to the airport, checking their tires. I stay on and give a four-hour Internet intensive in the Elementary School's router room, and it's well attended and well received. I'm probably the last to leave town, and I get a wicked sunburn and an overdose of bad food on the twenty-hour drive back to San Francisco. I nearly break into tears when twenty minutes from home, I find the Bay Bridge closed due to an accident.

But community can grow from adversity as well as commonality, and a little party forms at the toll booths. We dance, share stories from the road, and I'm invigorated enough to sing myself home as soon as the bridge reopens. 1/6

You can pick up proceedings and other materials from the Ideas Festival on the WELLgopher's "Community/Civic Networks/Telluride" section:

gopher gopher.well.com
and on Colorado SuperNet's anonymous-FTP server:
ftp.csn.org /Infozone

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Stack written by John Unger

interactive widgets

Welcome to the praxis of *Applied Memetics*... a marketplace for our Fringe community... live and direct from the *borderlands of virtuality*... Here are a few pointers for people who'd like to know more about how to participate here. The following paragraphs each have a phrase listed in **bold** at the end — send that phrase, as an email message, to our infobot at the following Internet address and you will receive more details in return: **fringeware-request@io.com**

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DISSEMINATE... Fringeoids have been busy, sampling the noosphere, amassing archives of interesting and useful info-blurbs, now collected on our file server: **get list**

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PROCURE... We've got a novel catalog of Widgets listed in the following pages—for you to be able to buy stuff that you won't find in mainstream distribution! Shipping rates apply only in the US; double all shipping rates on international orders. Call before placing interplanetary orders. Texas residents add 8% sales tax. Listings supersede any previous FW price list. All products subject to availability; we reserve the right to drop any product at any time. Our vendors are *fringeful*; many build their wares in small infrequent runs, so orders can take weeks to get filled, but we won't cash your check until we start shipping the order. We don't do: credit cards, purchase orders, C.O.D., toll-free numbers, consignment, product marketing or wholesale. We are not a big company, we travel frequently, get deluged with strange requests, etc., so it may take several days for us to respond even to intelligible inquiries, but we will sincerely try: **get prices**

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austin, tx 78765 usa
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Day Dreamer
..by Alpha Odysseys
\$14.95 + \$2.00 ship
GROK-01

Made from purple plastic, this device vaguely resembles a diving mask... perfect for your next dive into the Neuroverse! You look toward the nearest star with eyes closed, then blow into a tube with long, deep breaths, which causes the device's inner disk to rotate. Strobed natural light on closed eyelids produces photic stimulation, which combines with paced breathing for a wonderfully vivid kaleidoscopic experience. Simply the most intense brain machine available for cost/performance, if you have sunlight & breath to invest in clearing mental cobwebs. Called "the LSD flight simulator" by Timothy Leary.



ESPRIT

Esprit ESP-1
..by Syntec Systems
\$129.00 + \$3.00 ship
GROK-02

Pocket-sized brain machine, which FWR uses for events. Six built-in programs range from 10-30 min, in Alpha, Theta & Beta states. Powered by 4 AA batteries. Great buy in terms of price, performance & durability.



MasterMind DLS
..by Syntec Systems
\$199.00 + \$3.00 ship
GROK-03

Very popular mid-range, pocket-sized brain machine with more extensive controls beyond the Esprit. External audio input, built-in NiCad batteries & recharger.

MasterMind DLS w/ PolySync
..by Syntec Systems
\$249.00, ship incl.
GROK-04

Same as MasterMind DLS, but can also download programs from cassettes & CDs



SYNERGIZER

Synergizer
..by Syntec Systems
\$475.00, ship incl.
GROK-05

Add-in card + s/w for PCs. Great graphical interface for designing brain machine sessions up to 10 hrs or 300 segments long. Where all brain-machines are headed. Why buy extra boxes when you can use your PC as a custom brain machine?



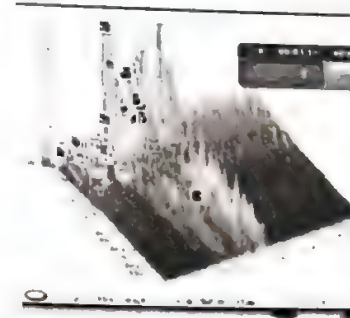
Mind Mirror
..by KnoWare
\$19.95 + \$1.00 ship
GROK-06

"ThoughtWare for Mind-tool or Mind-play" from Timothy Leary. For use with your personal "thought processing appliance." DOS color psych self-analysis, 5.25in disk, manual autographed by Dr. Leary (9jan94).



Digital Psychic
..by Jeff Posey
\$14.95 + \$0.75 ship
GROK-07

DOS s/w for digital seances. "Requires VGA graphics, mouse & a relaxed state of mind." Stonehenge pix for your visual/psychic pleasure. If you've ever used a Ouija board, then you know what to do.



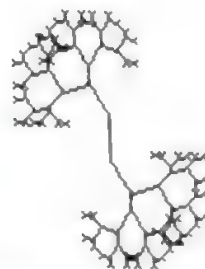
IBVA 1.5
..by Psychic Lab Inc.
\$1295.00, ship incl.
GROK-08

Interactive Brainwave Analyzer system. A sensor head band radio-xmits signals to a state of the art EEG system for the Mac. 3D FFT s/w provides visual analysis in real-time & translates brain modalities into MIDI events, graphic animation, RS-422 control signals, etc., for brain wave controlled multimedia & VR. See review in Mondo 2000 #7



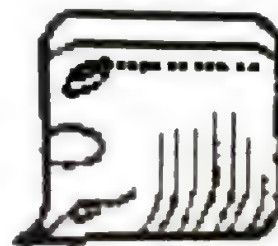
IBVA, 2 Channel Upgrade
..by Psychic Lab Inc.
\$1115.00, ship incl.
GROK-09

Upgrade kit to allow for two IBVA systems to be used in tandem. Tag-team EEG play with a grokbuddy, or use two head bands to analyze left/right brain EEG simultaneously.



Blind Watchmaker
..by Richard Dawkins
\$10.95 + \$1.00 ship
BORG-02

Evolutionary "biomorph" s/w for DOS or Mac, based on the Dawkins book. We use these ALife wares to illustrate our zines: a nifty, low-cost intro package that animates lessons about modern evolutionary theory.



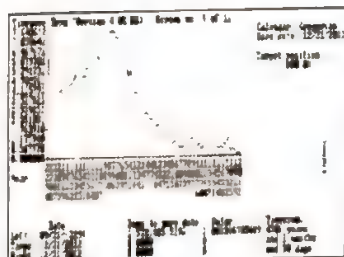
Mayan Calendrics
..by Dolphin Software
\$49.00 + \$3.00 ship
BORG-03

Academic tour-de-force explores correlations in Mayan & Western calenderic dates. Allows for various hypotheses about the Mayan calendar. E.g. 12.18.19 9.6 in the Tikal system using correlation number 584,283. is also called 1 Cimi 9 Yax, which PC anthropologists might call 13oct92 & agreed by most modern astronomers to be Julian day number 2,448,909. Provides an interesting way to encode a sequence of numbers which one might care to protect



PowerGlove
..by Mattel
bidask available units
GZMO-01

Mattel's ultra low-end VR device for 3D input to your computer. Limited used models—subject to availability. As we get units in, we ask people on our list.



Timewave Zero
..by Dolphin Software
\$49.00 + \$3.00 ship
BORG-04

Hexagram #49: "The magician is the one who make the calendar." High time for an archaic revival: DOS s/w illustrates Terence McKenna's theoretical work on Novelty, Time & the End of History, i.e. *Singularity*. "A precision instrument for exploring the theory of time as a fractal wave derived from the King Wen Sequence of *I Ching* Hexagrams. Based on extraterrestrial communications."



Polar Bear Snuff
..by Devonshire Apothecary
\$7.00 + \$0.75 ship
CHEM-03

A very popular bit of herbal snuff to help wake you up for a long night of driving, writing, hacking or whatever. "This shameless little concoction has always been our most popular herbal toy." White powder, 2.5g, contains caffeine crystals, red ginseng, kava kava, menthol crystals, clove & wintergreen oils.



MENSTAT

Menstat 2.0
..by Sudona
\$99.00 + \$3.00 ship
BORG-05

Fertility planning s/w for Macintosh, which uses neural nets to adapt to an individual's patterns. Easy to use graphical interface, lunar calendar, herbalism hypertext database & extended documentation as a health text. Check Susie Bright's review in *Future Sex* #2.



Xochi Speaks
..by Lord Nose!
\$24.00 + \$1.00 ship
CHEM-02

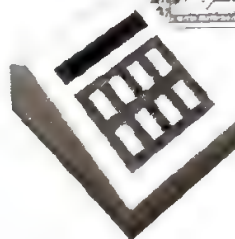
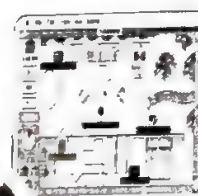
Full-color poster of *Xochipili*, Aztec god of Flowers with 16pp "Guide to the Psychedelics". *Mondo 2000* #7 sez: "Very neatly & artistically fills an educational niche." Taxonomy, cross tolerance, nutritional support, etc., partly excerpted within the public domain *Xochi Stack* for Hypercard.

FRED13
..by Robitron Software
\$199.95 + \$3.00 ship
GZMO-08

Natural language one-liner dialog generator AI. Used for the FRED13 topic of the "mondo" conference on *The WELL*. DOS or Unix. Check about source license.

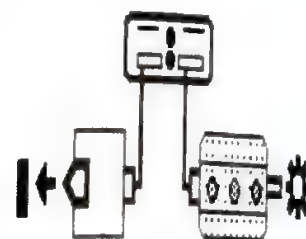
FRED13 demo
..by Robitron Software
\$43.00 + \$2.00 ship
GZMO-09

Same as above but doesn't learn new phrases; has 12000 phrase/response records, enough to hold a loose conversation. Great for an "intelligent agent" on a BBS.



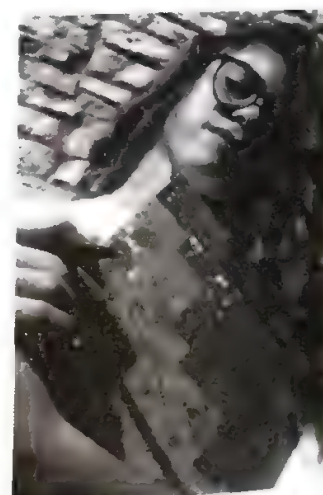
X-10 CPU Interface
..by X-10 Home Controls Inc.
\$65.00, ship incl.
GZMO-10

Controls lighting, appliances, security, etc. by sending signals over existing house wiring &/or infrared & radio transceivers. Model CP290 connects to the serial port of a Mac or PC. Bundled s/w can pre-set up to 128 timed events on up to 256 modules using multiple schedule files, then the unit disconnects from the computer. Mac version uses PICTs & icons to represent maps of your home. Connecting cable included. Dozens of X-10 peripherals are available, ranging from motion detectors to telephone transponders which dial multiple numbers in your voice... check our online price-list for details.



Hyperbot Interface Kit
..by Bots
\$290.00 + \$4.00 ship
GZMO-11

"Flexible robotic control, Hypercard tools for education." Mac-based graphical controller to build robots out of popular toy building kits: *LEGO*, *Capsella*, *MOVIT*, *fisher-technik*. Other activity kits available. Very easy to learn & program.



Circuit Board Clipboard
..by tecnotes
\$11.00 + \$2.00 ship
GZMO-03

33 x 24cm clipboard made from recycled circuit boards. Colors & designs vary with sources.

Circuit Board Binder
..by tecnotes
\$12.00 + \$2.00 ship
GZMO-04

Three-ring binder, 30 x 24cm, with steel polyhinge. Made from recycled circuit boards. Colors & designs vary.



Machine Screws
..by FringeWare Inc.
\$1.95 per sheet + \$0.30 ship
MEME-06

Stickers with a machine screw logo, approx. 5cm square. Just about the same size as those ubiquitous "heart" stickers. You know what to do.



World's Greatest Computer Disk Stickers
..by Black Eye Designs
\$2.95 + \$0.50 ship
MEME-08

That's right, these are really great. Each packet has 12 diskette labels, each with color artwork, infoblurbs & plenty of space left over for labeling your bytes. Five collections available: SciFi, Circus, Mystery, Smiles, Dinosaurs. Specify style with order.



Complete Schwa Kit
..by Schwa
\$15.00 + \$1.00 ship
MEME-10

"All the basic equipment for alien defense in one simple kit!" A brilliantly terrifying tale of alien abduction, told in a book that contains only symbols & illustrations. Kit also includes alien invasion survival keychain, cards, stickers, etc. F5 sez: "Whitney Schrieber alien rapture conspiracy virus attack! Suicide=redemption=money." A perfect intro text for surveying the stealth landscape of paranoia, alienation & disappearance. Stay Awake!



Alien Invasion Survival Card

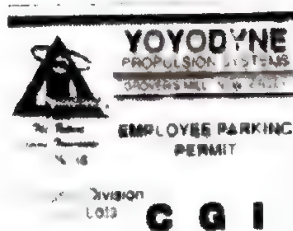
..by Schwa
\$1.00 + \$0.30 ship
MEME-11

"Identify aliens instantly with the amazing Xenon coated identifier" on a keychain. Includes lost time detector, abduction rangefinder, abduction rules, saucer viewer, and special peephole so that you can see what happens when they don't think you are watching.

Every Picture Tells A Lie

..by Schwa
\$1.00 + \$0.30 ship
MEME-12

Alien head sticker (5cm diam.) with "Every Picture Tells A Lie" motto. Help shape the future!



Yoyodyne Parking Permit

..by Pegasus Publishing
\$1.50 + \$0.30 ship
MEME-15

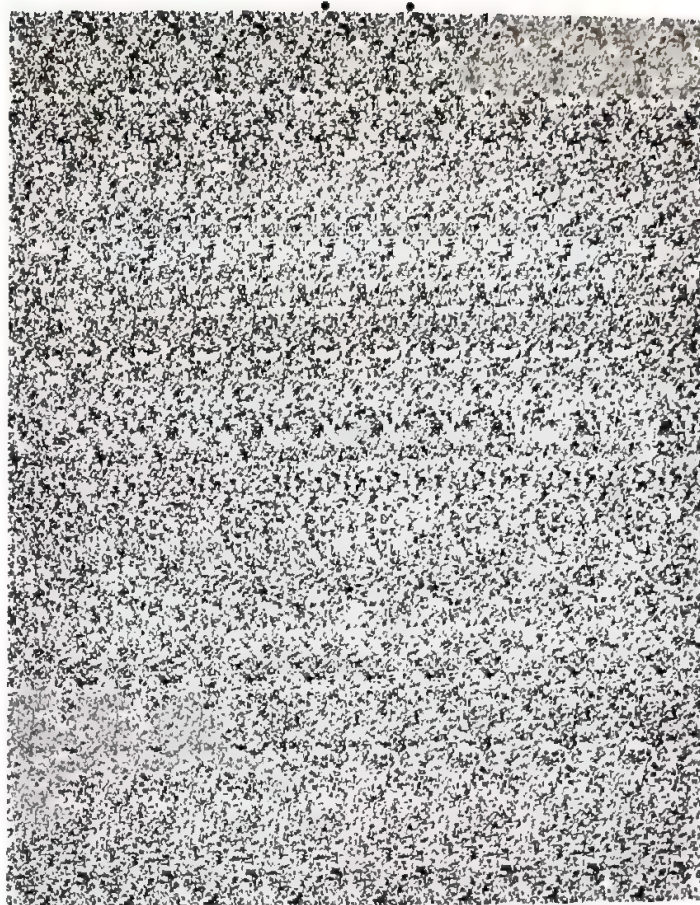
Now you can safely park your vehicle in any of the eight dimensional slots. Transparent decal, 8 x 10cm.



Schwa Lunar Calendar

..by Schwa
\$5.00 + \$0.75 ship
MEME-17

'94 lunar calendar, 1 x 0.5m. "Keeps you informed of all important lunar events." Great illos—terribly subtle.



cross your eyes on the
two dots, or put it be-
hind glass





2600 tee
..by 2600 magazine
\$12.00 + \$3.00 ship
SKIN-01

White illo of the original Blue Box circuit diagram on black cotton cloth.
Caption: "This is what started it all."



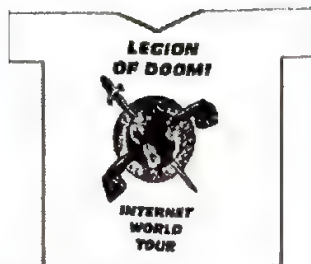
Kata Sutra tee
..by BOING-BOING magazine
\$12.00 + \$3.00 ship
SKIN-02

Kata Sutra logo with mind-bomb. Glow-in-the-dark on black cotton. Join the neo-wobblers in their great neuronautical adventures against GIC: "Get Illuminated!"



DIS NET tee
..by Dissemination Network
\$12.00 + \$3.00 ship
SKIN-03

Indian-head test pattern from Texas' premier Tek-Know™ muse/vid artists. Glow-in-the-dark on black cotton. Designs may mutate over time.



Legion Of Doom tee
..by Phrack ezine
\$15.00 + \$3.00 ship
SKIN-07
Famed LOD "Internet World Tour" shirt returns, with "Hacking For Jesus '91" on back. Black on white cotton.



GLOD tee
..by GLOD
\$15.00 + \$3.00 ship
SKIN-07
"PIECE, Detroit-style." Black on white cotton.. Watch for their recordings in here. GOD + GOLD = GLOD.



Bondage Baby Dangers
Bondage Pigs
Bondage Hand Dangers
Wicked Hand Dangers
..by Bobé+Link
\$15.00 each + \$1.00 ship
WEAR-04

Earring designs by performance artist René J. Cigler. "Her sculptures...do have definite characteristics of that morbid, necrophile, apocalyptic style which we know from Giger... reminiscent of Mad Max, postnuclear science fiction or cyberpunk" sez <<O>> magazine. Featured by FAD, Mondo 2000, MTV & the cover of BOING-BOING #11. Many more designs available, including body armor, neck pieces & other wire/rubber/gizmo jewelry.



Schwa tee
..by Schwa
\$14.00 + \$3.00 ship
SKIN-04
Alien detector logo is xenon-coated so that it'll glow in the presence of aliens. Great early warning system in case of abduction. White on black cotton, plus glow in the dark. "Not for the squeamish."



'92 Republican Convention tee
..by Pescado Production
\$15.00 + \$3.00 ship
SKIN-05
Ever notice how cops enjoy rubbing their nightsticks? Here's proof from the ACT-UP rally in Houston at the '92 Convention. Black on white.



FWR tee
..by FringeWare Inc.
\$10.00 + \$3.00 ship
SKIN-06
FWR logo a-la media detourment, plus illo for "Applied Memetics" from FWR #2. Designed by Monte McCarter. Let 'em know you care!



'Warewear Earrings
'Warewear Broaches
'Warewear Tie Tacks
..by Patty's Stuff
\$5.00 each + \$0.50 ship
WEAR-02

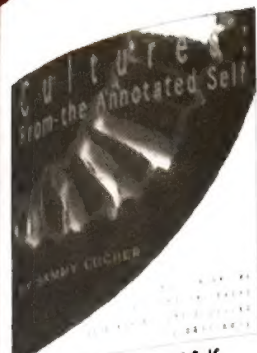
'Puter chips recycled into jewelry. Earrings come in three designs: dangling on hooks, piercing on posts & "puncture" (pierce with chip leads cut to look like a chip implant). Custom designs available on request; ask for contact info.



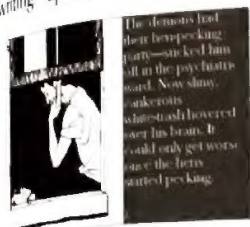
Voltar Masks
..by Duran
\$25.00 + \$3.00 ship
WEAR-03

In the tense battles to protect Voltar, one of the last remaining M class planets of a nearby star system, our superhero Duran has produced a new kind of electronically enhanced masks to protect his agents. Crafted from recycled electronic scraps, blinking LED circuits, see-thru plastic mesh, sunglasses & velcro, these masks might help the wearer to perceive beyond the media mindwash. Besides, they're fun at parties. Takes 4 watch batteries.

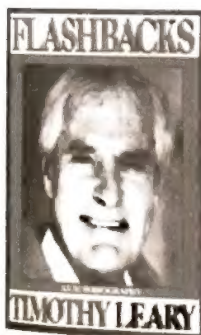
**All
T-
Shirts
are
size
XL
only**



Cultures From the Annotated Self
..by BASEARTS
\$15.00 + \$0.75 ship
MELT-08
First in a series of solo digital exhibitions featuring Sammy Cucher, previously shown at Ars Electronica, MIXED, etc. "Digital images... inquiring into the relationship between art & science... akin to automatic writing." Specify Mac or PC.



Ambulance
..by Electronic Hollywood
\$15.00 + \$0.75 ship
MELT-01
Sound-tracked horror novel of five LA post-collegiate twenty-something posers. "Upon John's release from rehab, they crash their car in a deserted stretch of Hollywood Hills & get picked up by a serial killer masquerading as an ambulance driver." Non-linear story by Monica Moran lets you chose doors, windows to alter the plot. Hypertext links for plot clues. animation by Jaime Levy, artwork by Jaime Hernandez of Love & Rockets, soundtrack by Mike Watt. Requires: Mac w/ 6.0.7 or later, 2Mb RAM, shipped on HD floppy.

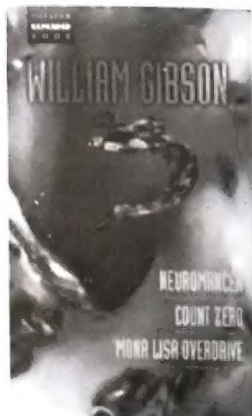


Flashbacks
..by KnowWare
\$12.00 + \$1.00 ship
MELT-04
"A Personal & Social History of an Era." Online version of Timothy Leary's autobiography, with forward by William S. Burroughs. "Part man, part myth; part knight, part dragon."



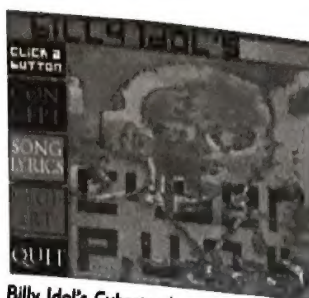
Cyber Rag I
Cyber Rag II
Cyber Rag III
Electronic Hollywood I
Electronic Hollywood II
..by Electronic Hollywood
\$6.00 each + \$0.75 ship
MELT-02

Mac electronic publications from premiere electronic zinester Jaime Levy. *Mondo 2000 #7*: "Angst animations, premenstrual poetry, ram-bunctious reviews, seductive sound samples" as well as subversive info for all. Started as a student project that frankly just took over. Electronic muchomedia with cutting insight, captivating production & a severe attitude! Each issue editorializes the frustrations of big city life from a Post-Boomer POV as La Editrix wanders from NYC to SF to LA to NYC...



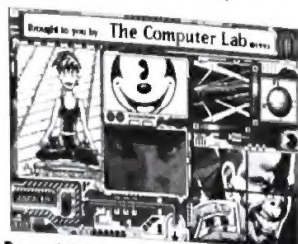
Expanded Books:
Neuromancer, Count Zero, Mona Lisa Overdrive
Complete Annotated Alice
Complete Hitchhiker's Guide to the Galaxy
Genius: Life & Science of R. Feynman
Jurassic Park (w/ sounds)
Amusing Ourselves To Death, Brave New World, etc.
Asimov Complete Stories, v1
..by The Voyager Company
\$18.00 each + \$1.00 ship
MELT-05

Mac s/w for electronic versions of popular novels with illustrations, sounds, hypertext links, digital book-marks & even hidden extras in the stories. Run word & phrase searches, add margin comments & end notes, highlight text, etc. "Electronic text is a dynamic medium that enables you to become a more active reader." Requires: System 6.0.7 or later w/ 31cm or larger monitor, HyperCard 2.1, HD disks.



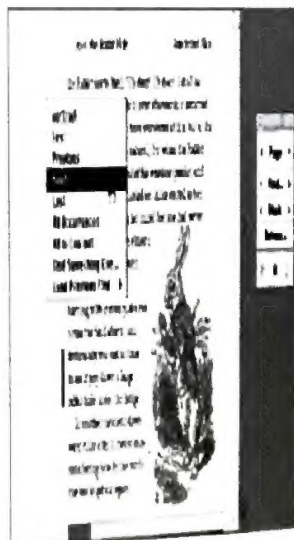
Billy Idol's Cyberpunk
..by Electronic Hollywood
\$10.00 + \$0.75 ship
MELT-07

Mac-based hardcore exploitation of presentation media-turn-interactive-MTV. "My first sell-out s/w!" First floppy ever distributed with an album. Contributions from Mark Frauenfelder, Gareth Branwyn, etc. See why everybody flamed on alt.c-p!



Beyond Cyberpunk v1.5
..by The Computer Lab
\$35.00 + \$2.50 ship
MELT-03

Attention Citizen! Multimedia tour-de-force of art, literature, thought & practice in a postmodern/cyberpunk genre. "Like scuba diving in an Encyclopedia." Requires HyperCard 2.x: coolest stack on the planet. Peter Sugarman, Gareth Branwyn, Mark Frauenfelder, Bruce Sterling, Richard Kadrey, Paul Di Filippo, Hakim Bey, Rudy Rucker & other illuminated cybodies under pseudonyms, cross linked via hypertext with industrial sound track, animation clips, digital book marks & a dictionary that pronounces its terms. "Open your eyes, ears & minds to the river of information that is growing exponentially... in raging turbulence... beyond anyone's ability to comprehend."



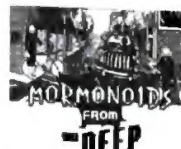
Hacker
..by Steve Jackson Games
\$17.76 + \$3.00 ship
PLAY-01

The US Secret Service wanted SJG's upcoming *GURPS Cyberpunk* game book so badly, they violated several Fed laws just to seize it. Board game written as a satire of the SS ordeal—similar the popular *illuminati*, but with a lot more Jolt Cola & modems... Boot up your Hackintosh & watch out for your alleged friends. Fnord.



Macjesus
..by Smurfs In Hell
\$9.25 + \$0.75 ship
PLAY-02

"Your personal Saviour on a floppy disk." Claims to help give you "an inside track when dealing with the Creator Of The Universe." Interactive mano-a-mano with an avatar, for personal evaluation & advice. Based on Hypercard 1.2—with special thanx to Miss Fifi LaRoue for "helping write the really dirty stuff."

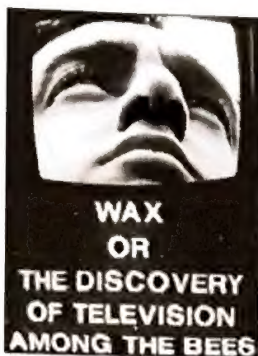


Mormonoids From The Deep
..by Smurfs In Hell
\$9.25 + \$0.75 ship
PLAY-03

One of the best adventure games on the Mac, depending on tastes: you have a .45, a nuclear detonator, a rapidly waning collection of beers as lifeblood & you're stuck in a small, sociopathic Mormon town in northern Utah. What happens next?

MacSpudd!
..by Smurfs In Hell
\$12.25 + \$0.75 ship
PLAY-04

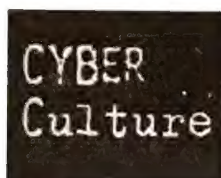
In the closing days of the 20th century, a major portion of the world's oil reserves were accidentally destroyed during a limited nuclear exchange between South Yemen & Liechtenstein. Alas, a French firm named Herpes Simplex now converts potatoes into ethanol, giving rise to the wealth & relative danger of life in Celibate Idaho. Come on, be a hero. Mac, 2 disks.



WAX

..by David Blair
\$59.95 + \$2.00 ship
NTSC-01

2000 dissolves trace the revenge of the dead through alien contacts, occultist NASA hacker reincarnation & nuclear weapons testings...into a realm of bee television. "Authentically peculiar...like something from the network vaults of an alternate universe" sez William Gibson. 85 min.



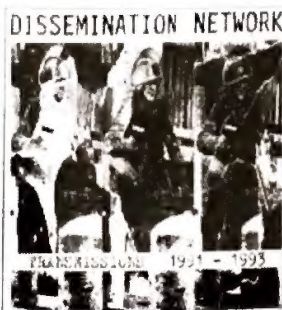
Cyber Culture
..by TLV Productions
\$15.00 + \$2.00 ship
NTSC-02

"Definitely a movement of people who want to communicate." Digitally reprocessed documentary on our ilk. Very info-dense. Clips of Max Moore (Extropy Institute), PXN (FWI), Charlie Brouette (Electronic Cafe), Dawn Stoppiello (MIDI Dancer), Dave Blackburn (LA VR SIG)... 15 min.



Alien Dreamtime
..by ROSE*X Media House
\$20.00 + \$2.00 ship
NTSC-03

Live event in SF, 26-27feb93, recreate a good trip...must-see for any true head: "aliens", "visuals", "singularity", etc. Terence McKenna speaks in tongues to one-up Robert Tilton, recounting DMT elven/alien lingo, rapping his ethnobotanical theories "Archaic Revival", "Alien Love" & "Time Wave Zero" in a rave, with live video scratching by ROSE*X, techno loops by Space Time Continuum, didgeridoo by Stephen Kent. 60 min.



Dissemination Network
..by Dissemination Network
\$10.00 + \$1.00 ship
MUSE-01

Texas' premier Tek-Know multimedia artists. "Guerilla media terrorism from the high-tech underground." No frontman, no guitars: let the media samples & scratches over loops do the talking... "it's about the Information." Public Enemy meets Front 242, online.



Indian Rope Burn
..by Indian Rope Burn
\$10.00 + \$1.00 ship
MUSE-02

"Takes a much needed pot shot at techno music...sounds more like a Lords Of Acid with Ministry guitar" sez 808 Reviews. "Guitar industrial sound with a slight taste of dance & punk" sez CyberCulture v1.4. "At some point the freak show has GOT to end!"



Flux Oersted Tapes
..by Robitron Software
\$4.00 + \$0.75 ship
MUSE-03

"Music from the fringes of the electromagnetic field." Subversive, computer augmented songs recorded by robitron aka Flux Oersted.

we're
look-
ing
for
more
titles
to
put
into
this
cata-
log
hint
hint



Fringe Ware Review #1
..by FringeWare Inc.
\$5.00 + \$1.00 ship
ZINE-11

Limited, signed copies of the premier issue. Survival on the margins of cyberculture. Tom Jennings, Bob Black, Don Webb, etc.



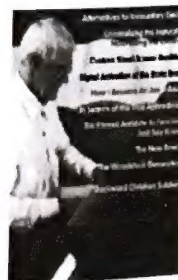
Unshaved Truths #3
..by FringeWare Inc.
\$5.00 + \$1.00 ship
ZINE-03

Gonzo fiction & high weirdness featuring: Don Webb, Wendy Wheeler, Peter Meyer, Carlos Rumbaut, Blade X, Jerod Pore, Jon Lebrowsky & more!



Unshaved Truths #4
..by FringeWare Inc.
\$3.95 + \$1.00 ship
ZINE-04

Cyborgonic gonzo fiction: "network, elves, horses, dreams, elevator, car-crash, dallas, morphs". Don Webb, Wendy Wheeler, Jon Lebrowsky, Milton Gomez, C.A. Rumbaut & more.



Timothy Leary's Greatest Hits
..by KnoWare
\$15.00 + \$1.50 ship
BOOK-01

Signed, limited edition of monographs includes: Alternatives to Involuntary Death, Criminalizing the Natural & Naturalizing the Criminal, How I Became An Amphibian, The Eternal Antidote to Facism: Just Say Know, etc.

missions statement

Neotribalism in the Global Village... FringeWare, Inc. (FWI) is a small commercial enterprise dedicated to community development around a fringe marketplace where the edges of diverse alternative cultures intersect. We feel that the market is the core of any community, and sick markets mean sick communities... just look around.

FringeWare acknowledges the essential importance of trade, but our mission is to create a context for E. F. Schumacher's "Economics as if People Mattered."

What's in the Fringe Market? We focus on publications, events, and products that we find interesting, fun, and enlightening... we engage in the following business activities:

- * Publishing printed and electronic periodicals, including *Fringe Ware Review* (ISSN 1069-5656) and *Unshaved Truths*.

- * Operating a retail outlet and a mail order service, selling street tech, software, gizmos, DIY supplies, wearable subversive memes, etc. A retail outlet is located in our local bookstore, *Europa Books*, 2406 Guadalupe, Austin, TX. Our mail address:

FringeWare Inc.

PO Box 49921

Austin, Texas 78765 USA

+1 512 477 1366

+1 512 477 8465 fax

- * Hosting an Internet mailing list for information from/about the cultural and technological fringes and providing an automated list server for FWI archives. See page 42 for details...

- * Organizing events in cooperation with other firms and organizations on the Fringes.

We're learning that people can survive quite nicely without huge corporations, huge governments, and huge dogmas pushing their lives. So here's the FringeWare alternative:

Start your own corporation. Trade with other like-minded people throughout the Global Village. Encourage innovation and promote entrepreneurship. Promote fair, cooperative business practices. Emphasize products that facilitate creativity, health, and play. Explore consciousness alternatives. Build community through advanced, available technologies, e.g. computer networks. Respect and consider the natural environment by promoting sustainable resource use. Have fun, be weird, and make what it takes to survive.

Welcome to the Fringes of art, technology, and society. From here innovation emerges, and here survival, through cooperation and use of the unexpected, counts. Thanx!

— Jon Lebkowski & Paco Xander Nathan

FRINGEWARE INC.



Seam Allowances

Fringed trim, made from fabric strips, can be inserted at seam and seams for a decorative effect. For fuller effect, layer two or three strips.

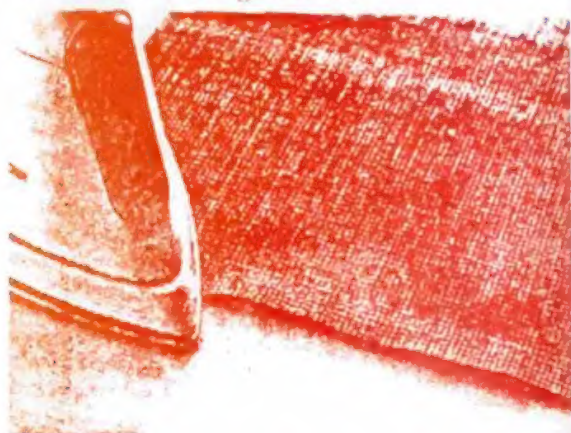
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How to Sew a Fringed Seam



1) Cut out the garment, allowing $\frac{1}{4}$ " (2 cm) seam allowances. Stitch seam, *wrong* sides together and raw edges even. Press seam flat.